

## Refine Search

### Search Results -

Terms	Documents
(RER or SMRER) with (pharmaceutical adj composition)	3

Database:

US Pre-Grant Publication Full-Text Database  
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EPO Abstracts Database  
JPO Abstracts Database  
Derwent World Patents Index  
IBM Technical Disclosure Bulletins

Search:

L1

Refine Search

Recall Text

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### Search History

DATE: Wednesday, February 02, 2005   [Printable Copy](#)   [Create Case](#)

**Set Name Query**

side by side

**Hit Count Set Name**

result set

*DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=OR*

L1   (RER or SMRER) with (pharmaceutical adj composition)

3

L1

END OF SEARCH HISTORY

FILE 'HOME' ENTERED AT 11:52:00 ON 02 FEB 2005

=> file medline caplus embase bitechno biosis  
'BITECHNO' IS NOT A VALID FILE NAME  
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a  
list of files  
that are available. If you have requested multiple files, you  
can  
specify a corrected file name or you can enter "IGNORE" to  
continue  
accessing the remaining file names entered.  
ENTER A FILE NAME OR (IGNORE):biotechno  
COST IN U.S. DOLLARS                      SINCE FILE  
TOTAL

	ENTRY	SESSION
FULL ESTIMATED COST		0.21
0.21		

FILE 'MEDLINE' ENTERED AT 11:52:41 ON 02 FEB 2005

FILE 'CAPLUS' ENTERED AT 11:52:41 ON 02 FEB 2005  
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2005  
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=> s( RER or SMRER) (S) (pharmaceutical (w)  
composition)  
S( IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by  
the system.  
For a list of commands available to you in the current file,  
enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> s( (RER or SMRER) (S) (pharmaceutical (w)  
composition)  
S( IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by  
the system.  
For a list of commands available to you in the current file,  
enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> s (RER or SMRER) (S) (pharmaceutical (w)  
composition)  
L1        0 (RER OR SMRER) (S) (PHARMACEUTICAL  
(W) COMPOSITION)

=> s (RER or SMRER) (S) (pharmaceutical)  
L2        0 (RER OR SMRER) (S) (PHARMACEUTICAL)

=> s (RER OR SMRER) (S) (composition?)  
L3        95 (RER OR SMRER) (S) (COMPOSITION?)

=> duplicate remove l3

DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS,  
EMBASE, BIOTECHNO, BIOSIS'  
KEEP DUPLICATES FROM MORE THAN ONE FILE?  
Y/(N):n  
PROCESSING COMPLETED FOR L3  
L4        68 DUPLICATE REMOVE L3 (27 DUPLICATES  
REMOVED)

=> dl4 l- ibib,abs  
DL4 IS NOT A RECOGNIZED COMMAND  
The previous command name entered was not recognized by  
the system.  
For a list of commands available to you in the current file,  
enter  
"HELP COMMANDS" at an arrow prompt (=>).

=> d l4 l- ibib,abs  
YOU HAVE REQUESTED DATA FROM 68 ANSWERS -  
CONTINUE? Y/(N):y

L4 ANSWER 1 OF 68 MEDLINE on STN  
ACCESSION NUMBER: 2004244618 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 15142015  
TITLE: Physiological and sport-specific skill  
response of olympic  
youth soccer athletes.  
AUTHOR: Vanderford M Lydia; Meyers Michael C;  
Skelly William A;  
Stewart C Craig; Hamilton Karyn L  
CORPORATE SOURCE: Department of Health and  
Human Development, Montana State  
University, Bozeman, Montana 59717, USA.  
SOURCE: Journal of strength and conditioning  
research / National  
Strength & Conditioning Association, (2004  
May) 18 (2)  
334-42.  
Journal code: 9415084. ISSN: 1064-8011.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL  
ARTICLE)  
(MULTICENTER STUDY)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200408  
ENTRY DATE: Entered STN: 20040515  
Last Updated on STN: 20040901  
Entered Medline: 20040831

AB Although many studies have been focused on soccer  
athletes, no  
comprehensive studies have been conducted on adolescent  
soccer athletes in  
the United States. Therefore, the purpose of this study  
was to quantify  
the physiological and sport-specific skill characteristics of  
Olympic  
Developmental Program (ODP) soccer athletes by age  
group and game  
experience. Following written, informed consent, 59 male  
athletes (age =  
14.6 +/- 2.0 years; wt = 60.5 +/- 1.4 kg; ht = 172.4 +/- 1.2  
cm) completed  
a battery of tests to determine aerobic power (VO(2)max),  
heart rate  
(HR(max)), ventilation (VE(max)), respiratory exchange  
ratio ( \*\*\*RER\*\*\*  
, anaerobic threshold (AT), blood pressure  
(BP(rest/max)), anaerobic  
power/capacity [peak power (PP), mean power (MP), total  
work output (TWO),

fatigue index (FI)], leg power [vertical squat jump (VJS), countermovement jump (VJC)], body \*\*\*composition\*\*\* [percent body fat (%BF), lean body mass (LBM)], joint range of motion (trunk, back, hip, knee, and ankle), and agility/sport-specific skills (T-test, line drill test, juggling test, Johnson wall volley, and modified-Zelenka circuit). Factor analyses with subsequent multivariate analyses of variance (MANOVAs) indicated significant main effects across age ( $p = 0.0001$ ) but not by game experience ( $p = 0.82$ ). Older athletes exhibited greater height, weight, LBM, VE(max), Time(max), PP, TWO, and VSJ values than younger athletes. Although not significant, there were differences with increasing age in the agility tests (T-test, wall volley, and juggling test). In conclusion, improvements in anaerobic power, agility, and sport-specific skill should be addressed at this developmental level of competition.

L4 ANSWER 2 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER: 2003237859 EMBASE  
TITLE: Effects of dietary fat on muscle substrates, metabolism,

and performance in athletes.

AUTHOR: Vogt M.; Puntschart A.; Howald H.; Mueller B.; Mannhart C.;

Gfeller-Tuescher L.; Mullis P.; Hoppeler H.

CORPORATE SOURCE: Dr. H. Hoppeler, University of Bern, Institute of Anatomy,

Buehlstrasse 26, 3000 Bern 9, Switzerland.

hoppeler@ana.unibe.ch

SOURCE: Medicine and Science in Sports and Exercise, (1 Jun 2003)

35/6 (952-960).

Refs: 42

ISSN: 0195-9131 CODEN: MSCSBJ

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Introduction: The present investigation aimed at identifying differences

in muscle structural \*\*\*composition\*\*\*, substrate selection, and

performance capacity in highly trained endurance athletes as a consequence

of consuming a high-fat or a low-fat diet. Methods:

Eleven duathletes

ingested high-fat (53% fat; HF) or high-carbohydrate diets (17% fat; LF)

for 5 wk in a randomized crossover design. Results: In m. vastus

lateralis, oxidative capacity estimated as volume of mitochondria per

volume of muscle fiber (HF:  $9.86 \pm 0.36$  vs LF:  $9.79 \pm 0.52\%$ , mean

$\pm$  SE) was not different after the two diet periods.

Intramyocellular

lipid (IMCL) was significantly increased after HF compared with LF (1.54

$\pm 0.27\%$  vs  $0.69 \pm 0.09\%$ ,  $P = 0.0076$ ). Glycogen content was lower

after HF than after LF, but this difference was not statistically

significant ( $487.8 \pm 38.2$  vs  $534.4 \pm 32.6$

mmol.ovrhdot.kg(-1) dry

weight,  $P = 0.2454$ ). Maximal power and VO(2max) ( $63.6 \pm 0.9$  vs  $63.9$

$\pm 1.2$  mL O(2).ovrhdot.min(-1).ovrhdot.kg(-1) on HF and LF) during an

incremental exercise test to exhaustion were not different between the two

diet periods. Total work output during a 20-min all-out time trial ( $298$

$\pm 6$  vs  $297 \pm 7$  W) on a bicycle ergometer as well as half-marathon

running time ( $80$  min  $12$  s  $\pm 86$  s vs  $80$  min  $24$  s  $\pm 82$  s) were not

different between HF and LF. Blood lactate

concentrations and respiratory

exchange ratios ( \*\*\*RER\*\*\* ) were significantly lower after HF than

after LF at rest and during all submaximal exercise loads. Conclusions:

Muscle glycogen stores were maintained after a 5-wk high-fat diet period

whereas IMCL content was more than doubled.

Endurance performance capacity

was maintained at moderate to high-exercise intensities with a

significantly larger contribution of lipids to total energy turnover.

L4 ANSWER 3 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER: 2002291365 EMBASE

TITLE: Prolonged adaptation to fat-rich diet and training; effects

on body fat stores and insulin resistance in man.

AUTHOR: Helge J.W.

CORPORATE SOURCE: J.W. Helge, Copenhagen Muscle Research Centre, H:S State

Hospital, Section 7652, Blegdamsvej 9, DK-

2100 Copenhagen

O, Denmark. Jhelge@cmrc.dk

SOURCE: International Journal of Obesity, (2002) 26/8 (1118-1124).

Refs: 32

ISSN: 0307-0565 CODEN: IJOBDP

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

003 Endocrinology

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB OBJECTIVE: To investigate the effect of prolonged adaptation to training

and fat- or carbohydrate-rich diet on body

\*\*\*composition\*\*\* and

insulin resistance. DESIGN: Longitudinal study. Of three groups two

consumed a fat-rich diet, of which one performed regular training

(FAT-Train,  $n = 17$ ) and the other maintained normal habitual activity

(Fat-Control, n = 8). The third group trained and consumed a carbohydrate-rich diet (CHO-Train, n = 16). SUBJECTS: Forty-one untrained, healthy male subjects. MEASUREMENTS: Before and after 7 weeks body \*\*\*composition\*\*\* was estimated from skinfold measurements. At rest the respiratory exchange ratio ( \*\*\*RER\*\*\* ) was determined by the Douglas bag technique. Glycogen was determined in m vastus lateralis and concentrations of insulin and triacylglycerol in serum and glucose, fatty acid and beta-hydroxy-butyrate in plasma was measured. The insulin resistance index was calculated from fasting plasma insulin and glucose values. RESULTS: Across the 7 weeks body weight was reduced (1.34 .+-. 0.3%) in all three groups, however body fat mass was decreased only in the CHO-Train (13%) and maintained in the two FAT-groups. \*\*\*RER\*\*\* at rest was similarly decreased (5%) in the three groups. Plasma insulin tended to decrease (16%) in CHO-Train (P = 0.065) and remained unchanged in the two FAT-groups. In contrast plasma glucose (4.6 .+-. 0.1 mmol/l) and plasma FA (453 .+-. 27 .mu.mol/l) remained unchanged across the 7 weeks. The calculated insulin resistance index HOMA-R(mod) was significantly decreased by 19% in CHO-train but remained unchanged in both of the FAT-groups, whereas the calculated insulin secretion index HOMA-ss(mod) was unchanged in all three groups. CONCLUSION: In the present study we demonstrate that despite of a mild energy deficit body fat mass was maintained after prolonged adaptation to fat-rich diet both when normal physical activity was maintained and when training was performed. In contrast a significant decrease in fat mass was observed when carbohydrate-rich diet and training was combined. Furthermore we observed that the insulin resistance index was significantly decreased only when training was combined with a carbohydrate-rich diet.

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on STN  
ACCESSION NUMBER: 2002423953 EMBASE  
TITLE: Determinants of fat mass in prepubertal children.  
AUTHOR: Muller M.J.; Grund A.; Krause H.; Siewers M.; Bosy-Westphal A.; Rieckert H.  
CORPORATE SOURCE: Prof. M.J. Muller, Inst. fur Humaner./Lebensmittel, Abteilung Emahrung des Menschen, Christian-Albrechts Univ. zu Kiel, Kiel, Germany.  
mmueller@nutrfoodsc.uni-kiel.de

SOURCE: British Journal of Nutrition, (1 Nov 2002) 88/5 (545-554).

Refs: 48  
ISSN: 0007-1145 CODEN: BJNUAV  
COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
017 Public Health, Social Medicine and Epidemiology  
007 Pediatrics and Pediatric Surgery  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB The aim of the present study was to compare variables of metabolism, physical activity and fitness to body \*\*\*composition\*\*\* in normal and overweight children in a cross-sectional study design. Body \*\*\*composition\*\*\* was assessed by anthropometric measurements and bioelectrical impedance analysis in forty-eight prepubertal children (age 5-11 years, thirteen normal-weight, thirty-five overweight). Total energy expenditure (EE) was measured by combination of indirect calorimetry (for measurement of resting EE) and individually calibrated 24h heart-rate (HR) monitoring. Activity-related EE and physical activity level (PAL) were calculated. Time spent with min-by-min HR>FLEX HR was also used as a marker of moderate habitual and vigorous activities. Aerobic fitness (O(2) pulse (O(2) consumption:HR at submaximal steady-state heart rate), submaximal O(2) consumption (V(O2submaximal))), \*\*\*RER\*\*\* at a HR of 170 beats per min) was determined by bicycle ergometry. Muscle strength of the legs (maximal isometric strength of musculus quadriceps and of musculus ischiocruralis (Fa max and Fb max respectively)) was measured by computer tensiometry. When compared with normal children, overweight children had higher skinfold thicknesses (sum of skinfold thicknesses at four sites + 160%), fat mass (+ 142%), waist (+ 24%) and hip circumferences (+ 14%), resting EE (+ 13%) and \*\*\*RER\*\*\* (+ 5%). No significant group differences were found for fat-free mass, muscle mass, total EE, activity-related EE, PAL, HR>FLEX HR, V(O2submaximal), O(2) pulse, Fa max and Fb max as well as the fat-free mass- or muscle mass-adjusted values for resting EE, aerobic fitness and muscle strength. When compared with normal children, overweight children had a lower measured v. estimated resting EE (.DELTA. resting EE) and spent more time watching television. There were positive relationships between fat-free mass((x)) and resting EE((x)), total EE((y)), aerobic fitness((y)) and muscle strength((y)), but only .DELTA. resting EE((x)) and HR>FLEX HR((x))

correlated with fat mass((y)). In a stepwise multivariate regression

analysis resting EE adjusted for fat-free mass and .DELTA. resting EE were significant determinants of % fat mass and explained 29.7% of its variance. Thus, in the present cross-sectional study, resting EE was the most important determinant of fat mass.

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on STN

ACCESSION NUMBER: 2002218720 EMBASE  
TITLE: Gender differences in substrate utilization during

submaximal exercise in endurance-trained subjects.

AUTHOR: Roepstorff C.; Steffensen C.H.; Madsen M.; Stallknecht B.;

Kanstrup I.-L.; Richter E.A.; Kiens B.  
CORPORATE SOURCE: C. Roepstorff, Copenhagen Muscle Research Centre, Dept. of Human Physiology, Universitetsparken 13, DK-2100 Copenhagen

O, Denmark. croepstorff@ifi.ku.dk  
SOURCE: American Journal of Physiology - Endocrinology and Metabolism, (2002) 282/2 45-2 (E435-E447).  
Refs: 39

ISSN: 0193-1849 CODEN: AJPMD

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology  
029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Substrate utilization across the leg during 90 min of bicycle exercise at 58% of peak oxygen uptake (VO(2 peak)) was studied in seven

endurance-trained males and seven endurance-trained, eumenorrheic females by applying arteriovenous catheterization, stable isotopes, and muscle

biopsies. The female and male groups were matched according to VO(2 peak) per kilogram of lean body mass, physical activity level, and training

history of the subjects. All subjects consumed the same diet, well

controlled in terms of nutrient \*\*\*composition\*\*\* as well as energy

content, for 8 days preceding the experiment, and all females were tested in the midfollicular phase of the menstrual cycle. During exercise,

respiratory exchange ratio ( \*\*\*RER\*\*\* ) and leg respiratory quotient (RQ) were similar in females and males. Myocellular triacylglycerol (TG)

degradation was negligible in males but amounted to 12.4 +/- 3.2 mmol/kg

dry wt in females and corresponded to 25.0 +/- 6.0 and 5.0 +/- 7.3% of

total oxygen uptake in females and males, respectively (P < 0.05).

Utilization of plasma fatty acids (12.0 +/- 2.5 and 9.6 +/- 1.5%), blood

glucose (13.6 +/- 1.5 and 14.3 +/- 1.5%), and glycogen (48.5 +/- 4.9

and 42.8 +/- 2.1%) were similar in females and males.

Thus, in females,

measured substrate oxidation accounted for 99% of the leg oxygen uptake,

whereas in males 28% of leg oxygen uptake was unaccounted for in terms of

measured oxidized lipid substrates. These findings may indicate that males

utilized additional lipid sources, presumably very low density

lipoprotein-TG or TG located between muscle fibers. On the basis of

\*\*\*RER\*\*\* and leg RQ, it is concluded that no gender difference existed

in the relative contribution from carbohydrate and lipids to the oxidative

metabolism across the leg during submaximal exercise at the same relative

workload. However, an effect of gender appears to occur in the utilization

of the different lipid sources.

L4 ANSWER 6 OF 68 MEDLINE on STN

DUPLICATE 1

ACCESSION NUMBER: 2002147681 MEDLINE

DOCUMENT NUMBER: PubMed ID: 11832875

TITLE: Physiological responses to weight-loss intervention in

inactive obese African-American and Caucasian women.

AUTHOR: Glass J N; Miller W C; Szymanski L M; Fernhall B; Durstine

J L

CORPORATE SOURCE: Exercise Science Programs, The George Washington University

Medical Center, Washington, D.C, USA..

jolie@gwu.edu

SOURCE: Journal of sports medicine and physical fitness, (2002 Mar)

42 (1) 56-64.

Journal code: 0376337. ISSN: 0022-4707.

PUB. COUNTRY: Italy

DOCUMENT TYPE: (CLINICAL TRIAL)

Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200205

ENTRY DATE: Entered STN: 20020308

Last Updated on STN: 20020528

Entered Medline: 20020522

AB BACKGROUND: The physiological responses of inactive obese premenopausal

African-American and Caucasian women to the identical exercise training

and behavior modification program were compared.

METHODS: Inactive obese

(96.1 +/- 2.9 kg, BMI=34.8 +/- 0.7 kg/m2, % body fat=46.0 +/- 0.8; mean +/-

SEM) premenopausal (36 +/- 2 yrs) African-American (n=10) and Caucasian

(n=19) women were included. Resting metabolic rate (RMR), respiratory

exchange ratio ( \*\*\*RER\*\*\* ), and maximal aerobic power (VO2max) were

measured by indirect calorimetry, and body

\*\*\*composition\*\*\* by

plethysmography. Resting and maximal heart rates, blood glucose and

lipids, and blood pressure were also measured. Treatment consisted of a 13-week diet and exercise behavior modification program. Group mean comparisons were made with a Student's "t"-test or an ANCOVA, which controlled for individual differences in body mass and lean body mass (LBM). Significance was set at  $p < 0.05$ . RESULTS: Initially, the groups were not significantly different in height, mass, BMI, age, % body fat, fat mass, LBM, girth measurements, RMR, RER, VO<sub>2</sub>max, blood pressure, or cholesterol profile. The number of weeks completed, number of exercise sessions completed, total minutes of exercise for the entire intervention, average minutes of daily exercise, and total estimated exercise energy expenditure were all similar between groups. Furthermore, both groups reported similar dietary compliance. Both groups reduced body mass, BMI, LBM, girth measurements, and increased VO<sub>2</sub>max (mlO<sub>2</sub> x kg<sup>-1</sup> x min<sup>-1</sup>) significantly and similarly. CONCLUSIONS: African-American and Caucasian women respond the same physiologically to weight loss intervention. The higher prevalence in obesity for African-American women is not due to a different physiological response to diet and exercise.

L4 ANSWER 7 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN  
ACCESSION NUMBER: 2002089224 EMBASE  
TITLE: Long-term administration of L-carnitine to humans: Effect on skeletal muscle carnitine content and physical performance.  
AUTHOR: Wachter S.; Vogt M.; Kreis R.; Boesch C.; Bigler P.; Hoppeler H.; Krahenbuhl S.  
CORPORATE SOURCE: S. Krahenbuhl, Division of Clinical Pharmacology, University Hospital, Petersgraben 4, CH-4031 Basel, Switzerland. kraehenbuehl@uhbs.ch  
SOURCE: Clinica Chimica Acta, (2002) 318/1-2 (51-61).

Refs: 51  
ISSN: 0009-8981 CODEN: CCATAR  
PUBLISHER IDENT.: S 0009-8981(01)00804-X  
COUNTRY: Netherlands  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Background: Long-term administration of high oral doses of L-carnitine on the skeletal muscle \*\*\*composition\*\*\* and the physical performance has not been studied in humans. Methods: Eight healthy male adults were treated with 2 x 2 g of L-carnitine per day for 3 months. Muscle biopsies and exercise tests were performed before, immediately after, and 2 months

after the treatment. Exercise tests were performed using a bicycle ergometer for 10 min at 20%, 40%, and 60% of the individual maximal workload (P(max)), respectively, until exhaustion. Results: There were no significant differences between V(O<sub>2</sub>)max, \*\*\*RER\*\*\* (max), and P(max) between the three time points investigated. At submaximal intensities, the only difference to the pretreatment values was a 5% increase in V(O<sub>2</sub>) at 20% and 40% of P(max) 2 months after the cessation of the treatment. The total carnitine content in the skeletal muscle was 4.10  $\pm$  0.82  $\mu$ mol/g before, 4.79  $\pm$  1.19  $\mu$ mol/g immediately after, and 4.19  $\pm$  0.61  $\mu$ mol/g wet weight 2 months after the treatment (no significant difference). Activities of the two mitochondrial enzymes citrate synthase and cytochrome oxidase, as well as the skeletal muscle fiber \*\*\*composition\*\*\* also remained unaffected by the administration of L-carnitine. Conclusions: Long-term oral treatment of healthy adults with L-carnitine is not associated with a significant increase in the muscle carnitine content, mitochondrial proliferation, or physical performance. Beneficial effects of the long-term treatment with L-carnitine on the physical performance of healthy adults cannot be explained by an increase in the carnitine muscle stores. COPYRIGHT. 2002 Elsevier Science B.V. All rights reserved.

L4 ANSWER 8 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:823219 CAPLUS  
DOCUMENT NUMBER: 135:358905  
TITLE: Thermoplastic laminates with decorative color  
INVENTOR(S): Sasaki, Michimasa  
PATENT ASSIGNEE(S): Mitsubishi Rayon Co., Ltd., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 2001315269	A2	20011113	JP 2000-140549
20000512			
PRIORITY APPLN. INFO.:			JP 2000-140549
20000512			
AB The laminates comprise sequential layers of thermoplastic moldings (total light transmittance 30-80%) contg. 0.2-10% diffusing agents having difference of refractive index .gtoreq.0.05 from that of the thermoplastics, colored layers, and fiber-reinforced plastic layers.			

Thus, a colored layer contg. Z Color (red unsatd. polyester gel coating) and a \*\*\*compn\*\*\* . contg. U-Pika 4521 (unsatd. polyester) and \*\*\*RER\*\*\* 231 GR 36 (glass fiber) were successively spray-coated on a washbowl comprising Me methacrylate-ethylene glycol dimethacrylate copolymer and BaSO<sub>4</sub> and cured, resulting in a gate-like appearance.

L4 ANSWER 9 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 2001:528412 CAPLUS

DOCUMENT NUMBER: 135:216712

TITLE: Response reactions: definition, derivation and

classification based on the composition of the participating species

AUTHOR(S): Hoffmann, Eufrozina A.; Nagypal, Istvan

CORPORATE SOURCE: Department of Physical Chemistry, University of Szeged, Szeged, H-6701, Hung.

SOURCE: Physical Chemistry Chemical Physics (2001), 3(15),

3107-3113

CODEN: PPCPFQ; ISSN: 1463-9076

PUBLISHER: Royal Society of Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An interpretive concept has recently been published to rationalize the

changes generated by the change of control parameters (pressure, temp.,

compn.) in complex equil. systems. It was proven that all of the

sensitivity coeffs. (and many other thermodynamically important

quantities) may be split into terms which are uniquely assigned to the

so-called response reactions (RERs). RERs were defined by the missing

species and their derivation was based on the

stoichiometrically

independent reactions (SIRs). In this paper we redefine \*\*\*RERs\*\*\*

with the help of the participating species and derive them from the

\*\*\*compn\*\*\* . of the participating species. This new way of definition

and derivation leads to the classification of RERs, which was not possible

before and helps to understand the underlying chem. of governing and

regulating the equil. systems. The formulas are presented in general

form, but some examples are also given to rationalize their meaning.

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS

AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER: 2002001862 EMBASE

TITLE: Insulin sensitivity measured by the minimal model: No

associations with fasting respiratory exchange ratio in trained athletes.

AUTHOR: Goedecke J.H.; Levitt N.S.; St. Clair Gibson A.; Grobler

L.; Noakes T.D.; Lambert E.V.

CORPORATE SOURCE: Dr. J.H. Goedecke, UCT/MRC Res. U. Exer. Sci., University

of Cape Town, Sports Sci. Inst. of South Africa,

PO Box

115, Newlands 7725, South Africa

SOURCE: Metabolism: Clinical and Experimental, (2001) 50/11

(1286-1293).

Refs: 59

ISSN: 0026-0495 CODEN: METAAJ

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

002 Physiology

035 Occupational Health and Industrial

Medicine

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The aim of this study was to examine the role of fasting insulin

concentrations and tissue insulin sensitivity on whole-body substrate

oxidation in 61 well-trained subjects. Subjects underwent a frequently

sampled intravenous glucose tolerance test (FSIVGT)

after a 10- to 12-hour

overnight fast. Minimal model analysis was used to

determine insulin

sensitivity (S(i)). A week later, fasting (10- to 12-hour)

respiratory

exchange ratio ( \*\*\*RER\*\*\* ) was measured at rest and during exercise at

25%, 50%, and 70% of peak power output (W(peak)).

Prior to these

measurements, training volume, dietary intake, and muscle fiber

\*\*\*composition\*\*\* , substrate concentrations, and enzyme activities were

determined. The average fasting plasma insulin

concentration was 7.3 +/-

2.4 .mu.U/mL (4.0 to 10.5 .mu.U/mL), and the mean S(i) was 14.0 +/- 6.1 x

(10(-4) min(-1)).mu.U(-1).mL(-1)) (2.6 to 26.3 x 10(-

4)min(-1)).mu.U(-

1).mL(-1)). There was no significant correlation between

fasting plasma

insulin concentration and S(i) (r = -.14, P = .336) or

between these

measurements and fasting \*\*\*RER\*\*\* , measured at

rest and during

exercise at 25%, 50%, and 70% W(peak). Only

VO(2max) and the proportion of

type 1 muscle fibers were significantly correlated with

S(i) (r = .30, P =

.045 and r = .34, P = .026, respectively), and waist-to-hip

ratio (WHR)

was significantly correlated with fasting plasma insulin

concentration (r

= .35, P = .006). In conclusion, S(i) and fasting plasma

insulin

concentration were not associated with fasting

\*\*\*RER\*\*\* at rest and

during exercise of increasing intensity in trained athletes who have high

S(i). Copyright .COPYRG. 2001 by W.B. Saunders Company.

L4 ANSWER 11 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER: 2000406909 EMBASE

TITLE: Intracellular events in the assembly of chylomicrons in

rabbit enterocytes.

AUTHOR: Cartwright I.J.; Plonne D.; Higgins J.A.

CORPORATE SOURCE: J.A. Higgins, Dept. of Molec. Biol./Biotechnology,

University of Sheffield, Sheffield S10 2TN, United Kingdom

SOURCE: Journal of Lipid Research, (2000) 41/11 (1728-1739).

Refs: 44

ISSN: 0022-2275 CODEN: JLPRAW

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

029 Clinical Biochemistry

048 Gastroenterology

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The aim of this study was to determine the intracellular events in

chylomicron assembly in adult villus enterocytes. We have used novel

methods for separation of the intracellular components of the secretory

compartment [rough and smooth endoplasmic reticulum (\*\*\*RER\*\*\* and

SER, respectively) and Golgi], and their membrane and luminal components,

from villus enterocytes isolated from rabbit small

intestine. The steady state \*\*\*composition\*\*\* of the components of the

secretory compartment

and the intracellular pools of newly synthesized

apolipoprotein B-48

(apoB-48) and triacylglycerol (TAG) was determined. The observations

indicate that the SER is the main site of TAG synthesis and of chylomicron

assembly. Newly synthesized apoB-48 and TAG accumulate in the SER membrane

and are transferred into the lumen in a microsomal

triglyceride transfer

protein-dependent step. In enterocytes isolated from

chow-fed rabbits, in

which fat absorption is relatively slow, transfer of apoB-48 and TAG from

the SER membrane into the lumen appears to be rate limiting. In

enterocytes from fat-fed rabbits, TAG accumulates in the lumen of the SER,

suggesting that movement out of the SER lumen becomes rate limiting, when

chylomicron secretion is markedly stimulated. In these cells, the

cytosolic TAG also increased to 450 .mu.g/g enterocytes, compared with 12

.mu.g/g enterocytes from chow-fed rabbits, indicating that transfer of TAG

from the SER membrane into the secretory pathway can become saturated, so

that newly synthesized TAG moves into the cytosol.

L4 ANSWER 12 OF 68 MEDLINE on STN

DUPLICATE 2

ACCESSION NUMBER: 2001367238 MEDLINE

DOCUMENT NUMBER: PubMed ID: 11093921

TITLE: Determinants of the variability in respiratory exchange

ratio at rest and during exercise in trained

athletes.

AUTHOR: Goedecke J H; St Clair Gibson A; Grobler L; Collins M;

Noakes T D; Lambert E V

CORPORATE SOURCE: University of Cape Town

Bioenergetics of Exercise Research

Unit, University of Cape Town Medical School, Newlands

7725, South Africa.. juliag@sports.uct.ac.za

SOURCE: American journal of physiology.

Endocrinology and

metabolism, (2000 Dec) 279 (6) E1325-34.

Journal code: 100901226. ISSN: 0193-1849.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL

ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200106

ENTRY DATE: Entered STN: 20010702

Last Updated on STN: 20010702

Entered Medline: 20010628

AB We examined the variability and determinants of the respiratory exchange

ratio (RER) at rest and during exercise in 61 trained

cyclists. Fasting

(10-12 h) RER was measured at rest and during exercise at 25, 50, and 70%

of peak power output (W(peak)), during which blood samples were drawn for

[lactate] and [free fatty acid] ([FFA]). Before these measurements,

training volume, dietary intake and muscle fiber

composition, [substrate],

and enzyme activities were determined. There was large interindividual

variability in resting RER (0.718-0.927) that persisted during exercise of

increasing intensity. The major determinants of resting RER included

muscle glycogen content, training volume, proportion of type 1 fibers,

[FFA] and [lactate], and %dietary fat intake (adjusted  $r(2) = 0.59$ ,  $P <$

0.001). Except for muscle fiber \*\*\*composition\*\*\*, these variables

also predicted \*\*\*RER\*\*\* at 25, 50, and 70% W(peak) to different

extents. The key determinant at 25% W(peak) was blood-borne [substrate],

at 50% was muscle [substrate] and glycolytic enzyme activities, and at 70%

was [lactate]. Resting RER was also a significant determinant of RER at

25 ( $r = 0.60$ ) and 50% ( $r = 0.44$ ) W(peak).

L4 ANSWER 13 OF 68 EMBASE COPYRIGHT 2005

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on STN

ACCESSION NUMBER: 2001055646 EMBASE

TITLE: Resistance training increases total energy expenditure and

free-living physical activity in older adults.



AUTHOR: Hunter G.R.; Wetzstein C.J.; Fields D.A.;  
Brown A.; Bamman  
M.M.

CORPORATE SOURCE: G.R. Hunter, Education Bldg.,  
Univ. of Alabama, 901 S. 13th  
St., Birmingham, AL 35294-1250, United States

SOURCE: Journal of Applied Physiology, (2000)  
89/3 (977-984).

Refs: 47

ISSN: 8750-7587 CODEN: JAPHEV

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

020 Gerontology and Geriatrics

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The purpose of this study was to determine what effects  
26 wk of

resistance training have on resting energy expenditure  
(REE), total

free-living energy expenditure (TEE), activity-related  
energy expenditure

(AEE), engagement in free-living physical activity as  
measured by the

activity-related time equivalent (ARTE) index, and  
respiratory exchange

ratio ( \*\*\*RER\*\*\* ) in 61- to 77-yr-old men (n = 8) and  
women (n = 7).

Before and after training, body \*\*\*composition\*\*\*

(four-compartment

model), strength, REE, TEE (doubly labeled water), AEE  
(TEE - REE +

thermic response to meals), and ARTE (AEE adjusted for  
energy cost of

standard activities) were evaluated. Strength (36%) and  
fat-free mass (2

kg) significantly increased, but body weight did not  
change. REE increased

6.8%, whereas resting \*\*\*RER\*\*\* decreased from 0.86  
to 0.83. TEE (12%)

and ARTE (38%) increased significantly, and AEE (30%)  
approached

significance (P = 0.06). The TEE increase remained  
significant even after

adjustment for the energy expenditure of the resistance  
training. In

response to resistance training, TEE increased and  
\*\*\*RER\*\*\*

decreased. The increase in TEE occurred as a result of  
increases in both

REE and physical activity. These results suggest that  
resistance training

may have value in increasing energy expenditure and lipid  
oxidation rates

in older adults, thereby improving their metabolic profiles.

L4 ANSWER 14 OF 68 EMBASE COPYRIGHT 2005  
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on STN

ACCESSION NUMBER: 2000246523 EMBASE

TITLE: Total body fat does not influence maximal  
aerobic capacity.

AUTHOR: Goran M.; Fields D.A.; Hunter G.R.; Herd  
S.L.; Weinsier

R.L.

CORPORATE SOURCE: M. Goran, Department of  
Preventive Medicine, Institute for

Preventive Research, University of Southern  
California,

1540 Alcazar Street, Los Angeles, CA 90033,  
United States.

goran@hsc.usc.edu

SOURCE: International Journal of Obesity, (2000)  
24/7 (841-848).

Refs: 42

ISSN: 0307-0565 CODEN: IJOBDP

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB OBJECTIVE: The objective of this study was to  
examine the influence of

body weight and body \*\*\*composition\*\*\* on aspects  
of aerobic fitness.

Our hypothesis was that increased body weight,

specifically increased fat

mass (FM), would not limit VO(2max) relative to fat-free  
mass (FFM), but

would reduce maximal and sub-maximal VO(2max)  
relative to body weight.

DESIGN: We used data from two ongoing studies. In  
Study 1 a

cross-sectional analysis of 129 children across a wide  
spectrum of body

\*\*\*composition\*\*\* was performed. In Study 2 we  
examined data from 31

overweight women before and after weight loss.

METHODS: VO(2max) was

measured using a treadmill test. Sub-maximal aerobic  
capacity was

evaluated with respiratory exchange ratio ( \*\*\*RER\*\*\*  
) , heart-rate

(HR), and oxygen uptake relative to VO(2max) at a given  
workload

(%VO(2max)). Body \*\*\*composition\*\*\* was assessed  
using dual energy

X-ray absorptiometry (DXA) (Study 1) and a four-  
compartment model (Study

2). RESULTS: In Study 1, FFM was the strongest

determinant of VO(2max) (r

= 0.87; P < 0.0001). After adjusting for FFM, there was  
no significant

influence of FM on VO(2max). After separating children  
into lean and obese

sub-groups, absolute VO(2max) was significantly higher  
in the obese (1.24

± 0.27 vs 1.56 ± 0.40) and VO(2max) relative to body  
weight was

significantly lower (44.2 ± 3.2 vs 32.0 ± 4.1 ml/(kg-  
min)), whereas

there was no significant difference when expressed  
relative to FFM (57.9

± 5.8 vs 59.2 ± 4.9 ml/(kgFFM-min)). Sub-maximal  
aerobic capacity

was significantly lower in the obese children, as indicated  
by a higher HR

and %VO(2max); time to exhaustion was significantly  
lower in the obese

children (15.3 ± 2.9 vs 11.1 ± 2.1 min). In Study 2,  
FFM was also

the strongest determinant of VO(2max) before and after  
weight loss. The

relationship between VO(2max) and FFM was identical  
before and after

weight loss so that VO(2max) relative to FFM was  
identical before and

after weight loss (43.8  $\pm$  4.9 vs 45.5  $\pm$  6.4 ml/(kgFFM $\cdot$ min)).

However, sub-maximal aerobic capacity was lower in the obese state, as

indicated by a significantly higher \*\*\*RER\*\*\* (0.85  $\pm$  0.06 vs 0.79

$\pm$  0.05), HR (124  $\pm$  14 vs 102  $\pm$  11 bpm), and %VO(2max) (44% vs

36%). CONCLUSION: The major influence of body weight on VO(2max) is

explained by FFM; FM does not have any effect on VO(2max). Fatness and

excess body weight do not necessarily imply a reduced ability to maximally

consume oxygen, but excess fatness does have a detrimental effect on

submaximal aerobic capacity. Thus, fatness and VO(2max) should be

considered independent entities.

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on STN

ACCESSION NUMBER: 2000294524 EMBASE

TITLE: Relationships between physical activity, physical fitness,

muscle strength and nutritional state in 5- to 11-year-old

children.

AUTHOR: Grund A.; Dilba B.; Forberger K.; Krause H.; Siewers M.;

Rieckert H.; Muller M.J.

CORPORATE SOURCE: M.J. Muller, Inst.

Humanemah./Lebensmittelkunde,

Agar-/Ernahrungswissenschaft. Fak., Christian-Albrechts-

Univ. zu Kiel, Dusternbrooker Weg 17-19,

24105 Kiel,

Germany. mmueller@nutrfoodsc.uni-kiel.de

SOURCE: European Journal of Applied Physiology, (2000) 82/5-6

(425-438).

Refs: 52

ISSN: 1439-6319 CODEN: EJAPFN

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

035 Occupational Health and Industrial

Medicine

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The purpose of the present study was to assess different aspects of

physical activity and fitness in order to develop a basis for sport

programmes for overweight and obese children. Eighty-eight prepubertal

children (49 boys, 39 girls, 4.8-11.4 years old, 61% obese, 14% overweight

and 25% normal weight) were examined. Body

\*\*\*composition\*\*\* was

assessed by combined use of anthropometrics and bioelectrical impedance

analysis. Resting energy expenditure (REE) and total energy expenditure

(TEE) were measured by indirect calorimetry (IC) and individually

calibrated 24-h heart rate (HR) monitoring, respectively. Activity-related

energy expenditure (AEE) and physical activity level (PAL) were calculated

from TEE and REE. Fitness [assessed by O<sub>2</sub>-pulse, respiratory exchange

ratio (\*\*\*RER\*\*\* ) at submaximal work intensities] was determined by

ergometry. The maximal isometric muscle strength of the legs (m.

quadriceps, Fa max, m. ischiocruralis, Fb max) was measured by computer

tensiometry. Children were grouped according to their nutritional state,

AEE, O<sub>2</sub>-pulse and muscle strength. When compared with normal weight

children, obese and overweight children had increased fat mass (FM),

fat-free mass (FFM), waist-to-hip ratio and REE, but no group differences

were observed for TEE, AEE, and PAL. Obese and overweight children spent

more hours per day watching TV. After correction for body weight and FFM,

no group differences in REE were observed, but normal weight children had

a higher O<sub>2</sub>-pulse than overweight and obese children. By contrast,

\*\*\*RER\*\*\* was increased in the latter group. The fittest group had the

lowest body weight, BMI, FM and FFM. Children with a low O<sub>2</sub>-pulse spent

more hours per day watching TV. Grouping children according to their

degree of muscle strength, younger children (4-7.5 years) did not show

group differences in nutritional state, energy expenditure, physical

activity and fitness. However, in the group of 7.6- to 11-year-old

children, those with the greatest muscle strength and FFM had reduced BMI,

skin folds, FM and FFM. FM correlated inversely with O<sub>2</sub>-pulse, but was not

associated with TEE, AEE, PAL or muscle strength. By contrast TV

consumption was positively associated with FM. To summarize, overweight

and obese children were less fit and watched more TV than their normal

weight counterparts. FM did not correspond to TEE, AEE or PAL. Muscle

strength was not associated with FM in young children, but was inversely

associated with FM in older children. Our cross-sectional data are

consistent with the idea that increased fitness and reduced physical

inactivity may prevent children from being overweight.

L4 ANSWER 16 OF 68 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on

STN

ACCESSION NUMBER: 2000:511973 BIOSIS

DOCUMENT NUMBER: PREV200000511973

TITLE: Paraspermatozoogenesis in Littoraria (Palustorina) articulata,

with reference to other Littorinidae

(Littorinoidea,

Caenogastropoda).

AUTHOR(S): Buckland-Nicks, John A. [Reprint author]; Healy, John M.;

Jamieson, Barrie G. M.; O'Leary, Stephen  
CORPORATE SOURCE: St. Francis Xavier University,  
Antigonish, NS, B2G 2W5,  
Canada

SOURCE: Invertebrate Biology, (2000) Vol. 119, No.  
3, pp. 254-264.

print.

ISSN: 1077-8306.

DOCUMENT TYPE: Article

LANGUAGE: English

ENTRY DATE: Entered STN: 22 Nov 2000

Last Updated on STN: 11 Jan 2002

AB The ultrastructure of paraspermatogenesis is examined  
in the littorinid

subfamily Littorininae, with special emphasis on

Littoraria (Palustorina)

articulata (PHILIPPI 1846). In particular the study

focuses on the fate

of the nucleus and origin of the rod bodies during

parasperm development.

Parasperm of the Littorininae are rounded or oblong cells,  
which undergo

an abortive meiosis and eliminate part of the nucleus but  
often retain a

nuclear remnant. The cytoplasm is filled with numerous  
spherical vesicles

in all Littorininae, but in Littoraria (and in certain species  
of

Nodilittorina, Tectarius and Cenchritis) dense 'rod-bodies'  
also occur.

Littoraria (Palustorina) are unique in possessing a  
flagellum-like

structure termed the 'pseudotrich', which lacks an

axoneme but contains

microtubules during its development. Paraspermatogonia  
differ from

euspermatogonia in the structure of the nucleus and in the

extensive rough

endoplasmic reticulum (RER) and swollen cytoplasm.

Two types of

secretions develop in Littoraria: (1) numerous, spherical  
granules

(composed of putative glycoprotein, also seen in other  
Littorininae) and

(2) rhomboid granules ( \*\*\*composition\*\*\* uncertain  
but reacting

positively to RNA stains; these granules arising within  
\*\*\*RER\*\*\*

cisternae close to the nucleus). As the rhomboid granules  
fuse to form

the larger, rod-bodies (polygonal in cross section), the  
RER membrane

enclosing the rod-bodies becomes confluent with the outer  
nuclear

membrane, thereby forming a common compartment.

Results of this study

clearly show that the rod-bodies are secretions of the RER  
cisternae and

not, as claimed in some light microscopic accounts, the  
product of fusion

of eusperm nuclei which have entered the parasperm

cytoplasm (either by

active eusperm penetration or by phagocytosis).

Developmental

characteristics of littorinid parasperm show differences  
between species

and may, in some cases, provide characters diagnostic of  
subgenera.

L4 ANSWER 17 OF 68 EMBASE COPYRIGHT 2005  
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on STN

ACCESSION NUMBER: 1999353545 EMBASE

TITLE: Substrate oxidation and availability during  
acute exercise

in non-obese, obese, and post-obese sedentary  
females.

AUTHOR: Ezell D.M.; Geiselman P.J.; Anderson  
A.M.; Dowdy M.L.;

Womble L.G.; Greenway F.L.; Zachwieja J.J.

CORPORATE SOURCE: J.J. Zachwieja, Pennington

Biomedical Research Ctr.,

Louisiana State University, 6400 Perkins Road,  
Baton Rouge,

LA 70808, United States

SOURCE: International Journal of Obesity, (1999)  
23/10 (1047-1056).

Refs: 29

ISSN: 0307-0565 CODEN: IJOBDP

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

006 Internal Medicine

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB OBJECTIVE: This study compared fat oxidation rates  
during an acute bout of

cycle ergometry exercise (E) typical of progressive fat  
oxidation in

healthy, but sedentary, women of different obesity

histories. DESIGN: Five

never-obese (NO) (mean age = 25  $\pm$  3 (s.e.)y, mean  
body fat = 25.0  $\pm$  2.8 (s.e.)%, five obese (O) (26  $\pm$  3 y, 44.4  $\pm$  1.7%),

and five

post-obese (PO) (22  $\pm$  1 y, 32.2  $\pm$  3.0%) women

cycled for 60 min at

60-65% peak VO<sub>2</sub>. To identify the specific effects of E, a  
control trial

consisting of 60 min of seated rest (R) was also

performed. E and R trials

were counterbalanced one month apart in the follicular  
phase and conducted

following a 3 d normalized, eucaloric diet.

MEASUREMENTS: Dual energy

X-ray absorptiometry (DEXA) was used to determine  
body \*\*\*composition\*\*\*

, and all were weight stable for at least eight weeks prior  
to

experimentation. During both trials breath by breath  
measurements of VO<sub>2</sub>

and \*\*\*RER\*\*\* were used to determine substrate  
oxidation and energy

expenditure. Blood samples were collected for hormone  
and metabolite

analysis before, and every 15 min during exercise or rest.

RESULTS: All

three groups showed a similar and progressive shift  
toward fat oxidation

as exercise progressed. No group differences were

observed for E energy

expenditure or fat oxidation. Glycerol ( $P < 0.0001$ ) and  
free fatty acids

( $P < 0.0001$ ) increased similarly in all three groups, but  
PO maintained

the highest free fatty acid level during exercise (group  
effect;  $P <$

0.01). E and R decreased ( $P < 0.001$  for both) insulin levels across groups, with lowest levels noted in PO and highest in O. Plasma epinephrine ( $P < 0.0001$ ) and norepinephrine ( $P < 0.001$ ) increased similarly during E in all three groups. Plasma growth hormone (GH) levels rose ( $P < 0.05$ ) during E, with a pronounced increase observed in PO. CONCLUSION: We conclude that exercise of equal relative intensity elicited similar fat oxidation rates among NO, O, and PO women, despite group differences in free fatty acid availability. The PO women's persistently lower insulin and higher plasma GH levels may have enhanced free fatty acid availability.

L4 ANSWER 18 OF 68 MEDLINE on STN  
 DUPLICATE 3  
 ACCESSION NUMBER: 1999421625 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 10490806  
 TITLE: Interrelationships between muscle fibre type, substrate oxidation and body fat.  
 AUTHOR: Helge J W; Fraser A M; Kriketos A D; Jenkins A B; Calvert G D; Ayre K J; Storlien L H  
 CORPORATE SOURCE: Copenhagen Muscle Research Centre, August Krogh Institute, University of Copenhagen, Denmark..  
 Jhelge@aki.ku.dk  
 SOURCE: International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity, (1999 Sep) 23 (9) 986-91. Journal code: 9313169. ISSN: 0307-0565.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals; Space Life Sciences  
 ENTRY MONTH: 199911  
 ENTRY DATE: Entered STN: 20000111  
 Last Updated on STN: 20000111  
 Entered Medline: 19991118  
 AB OBJECTIVE: To investigate interrelationships between muscle fibre type, respiratory exchange ratio (RER) during exercise at a fixed workload and adiposity. DESIGN: Cross-sectional study. SUBJECTS: 21 untrained, healthy male subjects. MEASUREMENTS: Body fat composition by dual-energy X-ray absorptiometry (DEXA). Exercise test at 55% of  $VO_{2max}$ , muscle fibre type composition, muscle NADH and citrate synthase enzyme activity levels; serum insulin, glucose and cortisol concentrations. RESULTS: Percent body fat was inversely correlated to the proportion of type I muscle fibres ( $r = -0.55$ ,  $P < 0.02$ ). In addition percent trunk fat was negatively correlated with percent type I fibres ( $r = -0.58$ ,  $P < 0.01$ ) while this

relationship was not present for percent leg fat. There was no relation between \*\*\*RER\*\*\* at rest or during exercise and muscle fibre type \*\*\*composition\*\*\* or percent body fat. CONCLUSION: Body fat and percent type I muscle fibres were correlated, supporting skeletal muscle fibre type as a potential etiological factor in obesity. No correlation was observed between percent body fat and substrate oxidation at rest or during moderate exercise, indicating that muscle fuel substrate mix does not appear to provide a mechanism for this relation under either condition.

L4 ANSWER 19 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 1998353822 EMBASE  
 TITLE: Choline supplementation increases tissue concentrations of carnitine and lowers body fat in guinea pigs.  
 AUTHOR: Daily III J.W.; Hongu N.; Mynatt R.L.; Sachan D.S.  
 CORPORATE SOURCE: Dr. D.S. Sachan, Department of Nutrition, 229 Jesse Harris Building, University of Tennessee, 1215 Cumberland Avenue, Knoxville, TN 37996-1900, United States  
 SOURCE: Journal of Nutritional Biochemistry, (1998) 9/8 (464-470).  
 Refs: 28  
 ISSN: 0955-2863 CODEN: JNBIEL  
 PUBLISHER IDENT.: S 0955-2863(98)00044-8  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 029 Clinical Biochemistry  
 030 Pharmacology  
 037 Drug Literature Index  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB It has been documented that choline supplementation results in urinary conservation of carnitine in both humans and guinea pigs. This conservation in guinea pigs is associated with increased concentrations of carnitine in skeletal muscle for which no functional consequences have been reported. The objective of this study was to evaluate changes in fat metabolism and body \*\*\*composition\*\*\* as a consequence of the increased tissue carnitine in choline-supplemented guinea pigs. Guinea pigs were given free access to commercial diet without or with 3 g choline/kg diet. Using indirect calorimetry, the respiratory exchange ratios ( \*\*\*RER\*\*\* ) of the animals were determined under normal, exercise, and unfed conditions. There were no differences in \*\*\*RER\*\*\* between supplemented and nonsupplemented groups under any of the conditions. The \*\*\*RER\*\*\* data lead to the conclusion that

choline-carnitine did not promote oxidation of fat over carbohydrates for energy. However, proximate analysis of carcass revealed significantly lower total body fat and higher body proteins in the choline-supplemented animals compared with the nonsupplemented animals. These apparently contradictory results are explained by the hypothesis that the acetates generated by the  $\beta$ -oxidation of fatty acids are transferred to carnitine and not oxidized to carbon dioxide, resulting in little or no shift in \*\*\*RER\*\*\*. Copyright (C) 1998 Elsevier Science Inc.

L4 ANSWER 20 OF 68 MEDLINE on STN  
 DUPLICATE 4  
 ACCESSION NUMBER: 1998198592 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 9539188  
 TITLE: Differences in resting metabolic rates of inactive obese African-American and Caucasian women.  
 AUTHOR: Forman J N; Miller W C; Szymanski L M; Fernhall B  
 CORPORATE SOURCE: Exercise Science Programs, The George Washington University  
 Medical Center, Washington, DC 20052, USA.  
 SOURCE: International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity, (1998 Mar) 22 (3) 215-21.  
 Journal code: 9313169. ISSN: 0307-0565.  
 PUB. COUNTRY: ENGLAND: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199805  
 ENTRY DATE: Entered STN: 19980514  
 Last Updated on STN: 19980514  
 Entered Medline: 19980507

AB OBJECTIVE: To compare resting metabolic rates (RMR) of African-American (n = 25) and Caucasian (n = 22) premenopausal (35 $\pm$ 1 y, Mean  $\pm$  s.e.m.) women who are obese (95.2 $\pm$ 2.9 kg, body mass index (BMI) = 34.7 $\pm$ 0.9, % body fat = 45.2 $\pm$ 0.9), inactive and free from metabolic disorders or medications that would affect heart rate or RMR. MEASUREMENTS: RMR and respiratory exchange ratio (\*\*\*RER\*\*\*) by indirect calorimetry, body \*\*\*composition\*\*\* by plethysmography, maximal aerobic capacity (VO<sub>2</sub>max) and girth measurements. RESULTS: Group mean comparisons were made with a Student's t-test or an ANCOVA, which controlled for individual differences in body weight and lean body mass (LBM). Significance was set at P < 0.05. Groups were not significantly different in age, height, weight, BMI, % body fat, fat mass, RER, VO<sub>2</sub>max, resting heart rate, maximal heart rate; or chest, waist, hip, arm, thigh or calf circumferences. After

adjusting for body weight, RMR (l O<sub>2</sub>/min) for African-Americans (0.254 $\pm$ 0.007) was significantly lower (9%) than for Caucasians (0.277 $\pm$ 0.008). After RMR (l O<sub>2</sub>/min) was adjusted for LBM, an even larger difference (-12%) persisted for African-Americans (0.250 $\pm$ 0.008) compared to Caucasians (0.281 $\pm$ 0.008). Predicted RMR (kJ/d) for the African-Americans was the same as measured RMR, whereas Caucasian women expended about 13% more energy than predicted. When controlling for LBM, the partial correlation between VO<sub>2</sub>max and RMR was r=0.51 when VO<sub>2</sub>max was expressed as l/min, and r=0.56 when VO<sub>2</sub>max was expressed as ml O<sub>2</sub>/kg/min, both highly significant (P < 0.000). CONCLUSION: The lower prevalence of obesity in Caucasian women may be due in part to a higher RMR as well as an under estimation of RMR in weight control therapy. Fitness level (VO<sub>2</sub>max) as well as LBM are significant predictors of RMR for both races.

L4 ANSWER 21 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1997:745888 CAPLUS  
 DOCUMENT NUMBER: 128:48977  
 TITLE: Curable composite material compositions and curing method  
 INVENTOR(S): Yamamoto, Tomio; Otani, Kazuo; Chiyo, Hidetake;  
 Sugita, shuichi; Kamata, Hirotochi  
 PATENT ASSIGNEE(S): Showa Highpolymer Co., Ltd., Japan; Showa Denko K. K.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. NO.	KIND	DATE	APPLICATION
JP 09296016	A2	19971118	JP 1996-325643
19961205			
JP 3431782	B2	20030728	
US 6171700	B1	20010109	US 1997-813237
19970307			
DE 19709765	A1	19971204	DE 1997-19709765
19970310			
US 6329442	B1	20011211	US 2000-708463
20001109			
PRIORITY APPLN. INFO.:			JP 1996-80760
A 19960308			JP 1996-325643 A 19961205
			US 1997-813237 A3
19970307			
OTHER SOURCE(S):			MARPAT 128:48977
AB Title compns. comprise (1) a polymerizable unsatd. compd., (2) reinforcing fibers and/or fillers, and (3) a polymn. initiation system including org. boron compd. Z+B-R1R2R3R4 and an acidic compd. (R1-4 = alkyl, aryl, allyl,			

aralkyl, alkenyl, alkynyl, silyl, heterocycle, halogen; Z+ = cation).

Thus vinyl ester resin Ripoxy R 808 100, tetrabutylammonium butyltriphenylborate 0.5, light/heat-latent acid-forming sulfonium compd.

CI 2855 1.0 part were mixed to give a compn. Carbon cloth was impregnated with the compn., laminated, and covered with a polyethylene terephthalate film. The laminate was cured by irradiating with a 250 W metal halide lamp and showed bending strength 720 MPa and flexural modulus 49 GPa.

L4 ANSWER 22 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN DUPLICATE 5

ACCESSION NUMBER: 1998096351 EMBASE

TITLE: Subcellular fractionation of polarized epithelial cells and

identification of organelle-specific proteins by two-dimensional gel electrophoresis.

AUTHOR: Fialka I.; Pasquali C.; Lottspeich F.; Ahom H.; Huber L.A.

CORPORATE SOURCE: Dr. L.A. Huber, Institute of Molecular Pathology, Dr.

Bohr-Gasse 7, A-1030 Vienna, Austria.

huber@nt.imp.univie.ac.at

SOURCE: Electrophoresis, (1997) 18/14 (2582-2590).

Refs: 62

ISSN: 0173-0835 CODEN: ELCTDN

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Protein targeting and sorting is accomplished by complex vesicular

transport processes that are tightly regulated within a cell.

This is

especially important for epithelial cells because correct delivery of

newly synthesized proteins as well as recycling and sorting of

internalized membrane proteins is essential for the establishment and

preservation of cellular polarity. Many transport events, linking various

subcellular compartments, have been analyzed, but many transport

mechanisms still remain unresolved. In this study we attempted to identify

proteins specifically associated with distinct organelles in murine

mammary epithelial cells (Eph4). We isolated subcellular compartments by

continuous sucrose gradient centrifugation in order to further analyze

their protein \*\*\*composition\*\*\* by high-resolution two-dimensional

gel electrophoresis (2-DE). The successful separation of late endosomes

(LE), early endosomes (EE) and most of the rough endoplasmic reticulum (

\*\*\*RER\*\*\* ) was confirmed by subsequent analysis of gradient fractions

for compartment-specific enzymes and marker proteins.

Both Golgi and

plasma membrane (PM) were found to partially co-purify with EE in such

gradients. Characteristic polypeptide patterns were revealed on 2-DE gels

for fractions enriched in membranes of different origin.

Based on improved

sample preparation and loading techniques (this issue, C. Pasquali et al.,

Electrophoresis, 1997, 18, 2573-2581), we were able to identify several

proteins by immunoblotting or microsequencing of Coomassie-stained spots.

This will be the basis for a further characterization of organelle-specific molecules in epithelial cells as well as for the

establishment of a 2-DE reference map of membrane proteins from murine

mammary epithelium.

L4 ANSWER 23 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN

ACCESSION NUMBER: 97142945 EMBASE

DOCUMENT NUMBER: 1997142945

TITLE: The protein digestibility-corrected amino acid score method

overestimates quality of proteins containing antinutritional factors and of poorly digestible

proteins

supplemented with limiting amino acids in rats.

AUTHOR: Sarwar G.

CORPORATE SOURCE: G. Sarwar, Nutrition Research Division, Bureau of

Nutritional Sciences, Banting Research Centre,

Tunney's

Pasture, Ottawa, Ont. K1A 0L2, Canada

SOURCE: Journal of Nutrition, (1997) 127/5 (758-764).

Refs: 52

ISSN: 0022-3166 CODEN: JONUA1

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The validity of the protein digestibility-corrected amino acid score

(PDCAAS) method in predicting the quality of fourteen protein products was

compared with the commonly used protein quality methods, protein

efficiency ratio ( \*\*\*RER\*\*\* ) and net protein ratio (NPR). A rat growth

and balance study was conducted to determine protein digestibility and

quality of the animal and vegetable protein products by the PER and NPR

methods. Amino acid \*\*\*compositions\*\*\* of the products were also

determined, and PDCAAS were calculated using a rat and a human pattern of

amino acid requirements. Compared to the biological methods, the scoring

method overestimated protein quality of mustard flour [PDCAAS of 84-92%

vs. relative PER (RPER) or relative NPR (RNPR) of 0], raw black beans

(PDCAAS of 45-72% vs. RPER or RNPR of 0), alkaline-treated lactalbumin and

soybean protein isolate (PDCAAS of 44-67% vs. RPER or RNPR of 0) and heated skim milk (PDCAAS of 29-31% vs. RPER and RNPR of 0-5%). The scoring method also overestimated the protein quality of zein (true protein digestibility of 63%) supplemented with Lys, Met, Thr and Trp (PDCAAS of 63-71% vs. RPER and RNPR of 3-44%). These data demonstrate that the PDCAAS method is inappropriate for predicting protein quality of those protein sources which may contain naturally occurring growth-depressing factors or antinutritional factors formed during alkaline and/or heat processing.

L4 ANSWER 24 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN DUPLICATE 6  
ACCESSION NUMBER: 97112974 EMBASE  
DOCUMENT NUMBER: 1997112974  
TITLE: MSH2 and MLH1 mutations in sporadic replication error-positive colorectal carcinoma as assessed by two-dimensional DNA electrophoresis.  
AUTHOR: Wu Y.; Nystrom-Lahti M.; Osinga J.; Looman M.W.G.; Peltomaki P.; Aaltonen L.A.; De la Chapelle A.; Hofstra R.M.W.; Buys C.H.C.M.  
CORPORATE SOURCE: C.H.C.M. Buys, Department of Medical Genetics, Ant. Densinglaan 4, 9713 AW Groningen, Netherlands  
SOURCE: Genes Chromosomes and Cancer, (1997) 18/4 (269-278).  
Refs: 35  
ISSN: 1045-2257 CODEN: GCCAES  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 016 Cancer  
022 Human Genetics  
048 Gastroenterology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Replication errors ( \*\*\*RER\*\*\* ) are frequently seen in both sporadic and hereditary forms of colorectal cancer. In hereditary nonpolyposis colorectal cancer (HNPCC), \*\*\*RER\*\*\* is associated with defects in DNA mismatch repair genes. Two of these genes, MSH2 and MLH1, account for a major share of this cancer syndrome. In order to assess the role of these genes in sporadic \*\*\*RER\*\*\* + colorectal carcinoma, we have carried out a mutation analysis of MSH2 and MLH1 by two-dimensional (2-D) DNA electrophoresis, including heteroduplexing and separation in a denaturing gradient. All exons were amplified using multiplex PCR and were separated on the basis of both size and base pair \*\*\*composition\*\*\* under a single set of experimental conditions. Exons showing a spot position

different from normal were sequenced. In screening 33 unselected, sporadic \*\*\*RER\*\*\* + colorectal tumors, a germline mutation accompanied by loss of heterozygosity in tumor tissue was found in two patients. They were among the 4 patients out of the 33 screened that were diagnosed before the age of 50 years. In 8 of the remaining 31 tumors (26%), presence of somatic mutations (9 in total) could be demonstrated. While suggesting involvement of other genes in a substantial part of sporadic \*\*\*RER\*\*\* + colorectal carcinomas, our results also demonstrate a clear role of MSH2 and MLH1 in these sporadic tumors and show that young sporadic \*\*\*RER\*\*\* + colorectal carcinoma patients have a high probability of germline mutations. This has important implications for genetic testing and management of young colorectal cancer patients and their families.

L4 ANSWER 25 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN  
ACCESSION NUMBER: 96154192 EMBASE  
DOCUMENT NUMBER: 1996154192  
TITLE: Metabolic propensity toward obesity in black vs white females: Responses during rest, exercise and recovery.  
AUTHOR: Chitwood L.F.; Brown S.P.; Lundy M.J.; Dupper M.A.  
CORPORATE SOURCE: United States  
SOURCE: International Journal of Obesity, (1996) 20/5 (455-462).  
ISSN: 0307-0565 CODEN: IJOBDP  
COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB OBJECTIVE: To examine the existence of a metabolic propensity toward the development of obesity in black vs white females.  
DESIGN: Cross-sectional comparison of responses during 30 min of rest, 30 min of treadmill exercise at 65% VO(2max), and 30 min of recovery.  
SUBJECTS: 22 (11 black, 11 white) healthy, normal weight, sedentary females with a family history of obesity. MEASUREMENTS: Biometric measures (body mass index, waist-to-hip ratio, and body \*\*\*composition\*\*\* by hydrodensitometry) to insure inter-group homogeneity. Oxygen consumption (VO2), respiratory exchange ratio ( \*\*\*RER\*\*\* ), insulin, glucose and free fatty acids (FFA) during rest, exercise and recovery were measured to test for metabolic differences between the groups. RESULTS: Black females displayed lower VO2 during rest (p = 0.04) and recovery (p = 0.04), higher

\*\*\*RER\*\*\* during rest, exercise and recovery ( $p = 0.003$ ), and higher levels of insulin ( $p = 0.03$ ). No significant differences were observed for levels of blood glucose ( $p = 0.29$ ) or serum FFA ( $p = 0.73$ ). CONCLUSION: Normal weight black and white females with comparable family histories of obesity exhibit dissimilar metabolic responses during rest, exercise and recovery. Lower rates of oxygen consumption, higher metabolic reliance on carbohydrate, and higher levels of insulin may slowly impact energy balance predisposing these black females toward the eventual onset of obesity.

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on STN

ACCESSION NUMBER: 96379865 EMBASE

DOCUMENT NUMBER: 1996379865

TITLE: Time course of vinblastine-induced autophagocytosis and changes in the endoplasmic reticulum in murine pancreatic acinar cells: A morphometric and biochemical study.

AUTHOR: Rez G.; Csak J.; Fellinger E.; Laszlo L.; Kovacs A.L.;

Oliva O.; Kovacs J.

CORPORATE SOURCE: Department of General Zoology, Eotvos University, pf

330,H-1445 Budapest, Hungary

SOURCE: European Journal of Cell Biology, (1996) 71/4 (341-350).

ISSN: 0171-9335 CODEN: EJCBDN

COUNTRY: Germany

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 001 Anatomy, Anthropology,

Embryology and Histology

029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The time course of the vinblastine(-sulfate; 10 mg/kg body weight, single injection)-induced enlargement and subsequent regression of the

autolysosomal compartment was studied by electron microscopic morphometrical and cell biochemical methods in order to gain information concerning some key problems of this major route of intralysosomal degradation of the cell's endogenous macromolecules and structures.

Detailed analysis of the dynamics of the total autophagic vacuole (AV) compartment and its different subcompartments (early, advanced, late, and fused AVs), as well as of changes of rough-surfaced endoplasmic reticulum ( \*\*\*RER\*\*\* ) showed: 1. Pancreatic acinar cells react to vinblastine biphasically, i.e. two expansion phases of the AV compartment, the first in the 0 to 90 min and the second in the 2 to 8 h post-injectional

periods, were detected. 2. Fusions of AVs are not inhibited by vinblastine, at least during the second expansion phase when cytoplasmic volume fraction (CVF) of fused AVs steadily increased until tile 12th h.

Fusion of early, advanced and late AVs or \*\*\*composition\*\*\* of fused complex vacuoles (AV(c),) are somehow regulated, as the proportion of the three AV stages from the CVF of AV(c) was maintained constant throughout the second expansion phase. 3. Stimulation of autophagosome formation and resulting substrate overload seems to be the primary mode of action by

which vinblastine causes the enormous expansion of the autolysosomal compartment. 4. Degranulation of the rough-surfaced endoplasmic reticulum

( \*\*\*RER\*\*\* ) membranes occurs in a biphasic fashion, similarly to the volume and surface changes of the AV compartment, thus supporting our previous hypothesis, that labilization or change of \*\*\*RER\*\*\* may have

a role in the formation of autophagosomes. 5. Vinblastine-induced

autophagocytosis is a selective process, as mitochondria, Golgi elements

and zymogen granules are very much underrepresented, whereas \*\*\*RER\*\*\*

is more than twice overrepresented in the volume of early AVs, when compared to their volume fraction in the whole cytoplasm.

6. Immunogold electron microscopy revealed the presence of ubiquitinated proteins in advanced and late, but not in early AVs.

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on STN

ACCESSION NUMBER: 96082173 EMBASE

DOCUMENT NUMBER: 1996082173

TITLE: Physical measures of recovery from anorexia nervosa during hospitalised re-feeding.

AUTHOR: Waller E.G.; Wade A.J.; Treasure J.; Ward A.; Leonard T.; Powell-Tuck J.

CORPORATE SOURCE: Department of Human Nutrition, London Hospital Medical

College, Turner Street, London E1 2AD, United

Kingdom

SOURCE: European Journal of Clinical Nutrition, (1996) 50/3

(165-170).

ISSN: 0954-3007 CODEN: EJCNEQ

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Objective: To examine the relationship between weight gain, changes in

body \*\*\*composition\*\*\* and physiological characteristics of fitness

during the recovery from anorexia nervosa. Design: Longitudinal over eight



weeks of intensive inpatient re-feeding (Wk 0-8). Setting: The London

Hospital Medical College. Subjects: Ten female patients who agreed to

participate. Seven completed the protocol. Interventions: Dual-energy

X-ray absorptiometry (dexa) and skinfold thickness measures at Wk 0 and 8.

Weekly measures of peak expiratory flow rate and cycle ergometry (several

variables relating to aerobic work recorded at rest and during cycling at

low loads (0-60W)). Blood samples for lactate and potassium measures,

taken during cycling at Wk 0, 4 and 8 only. Results: (1) Body

\*\*\*composition\*\*\* : Mean weight gain over eight weeks was 9.6 kg, dexa and skinfold measures showing fat gain to contribute 62% and 54%,

respectively. Both methods showed significant changes in percentage body

fat with refeeding ( $P < 0.01$  and  $P < 0.001$ , respectively), however there

were significant differences in results between methods before ( $P < 0.01$ )

but not after ( $P = 0.2$ ) refeeding. (2) Physiological

function: Between weeks 0 and 8, mean peak expiratory flow rate rose to 85% of predicted

values, cycle ergometry performance improved in six subjects (three never

reached 60 W load), mean respiratory exchange ratio (\*\*\*RER\*\*\* ) during

cycling fell at 0 W and 20 W loads (both  $P < 0.05$ ), and oxygen pulse

increased at rest and 0 W load cycling (both  $P < 0.05$ ), Wk 8 values being

well below normal. Oxygen uptake at rest and all loads increased in line

with body weight gain only. No significant changes were seen in heart rate

or blood lactate and potassium levels. Conclusions: (1) Lean body and fat

mass increased significantly during eight weeks of refeeding. The

methodological difference in initial body fat measurements requires

further investigation. (2) The women had severely impaired physiological

function. Variables studied were only slowly improving with refeeding, and

work capacity was still well below normal.

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on STN

ACCESSION NUMBER: 96284527 EMBASE

DOCUMENT NUMBER: 1996284527

TITLE: Heart rate response during handball singles match-play and

selected physical fitness components of experienced male

handball players.

AUTHOR: Loftin M.; Anderson P.; Lytton L.; Pittman P.; Warren B.

CORPORATE SOURCE: Dept Human Perform./Hlth Promotion, University of New

Orleans, New Orleans, LA 70148, United States

SOURCE: Journal of Sports Medicine and Physical Fitness, (1996)

36/2 (95-99).

ISSN: 0022-4707 CODEN: JMPFA3

COUNTRY: Italy

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Limited information is available concerning the exercise response during

handball (HE) singles match-play. Also, few studies exist that have

examined V.ovrhdot.O2 peak and body

\*\*\*composition\*\*\* of HE players.

The purpose of this study was to examine the heart rate (HR) response

during match play and peak physiologic responses and relative fat in

twelve experienced HE players. Peak physiologic

responses were measured

during treadmill running and body \*\*\*composition\*\*\* was assessed via

hydrodensitometry. During HE match-play, HR was measured and stored every

five seconds using a Polar Vantage XL heart watch.

Physical

characteristics and peak physiologic responses included the following: Age

(yrs) 47.2; BW (kg) 78.0; height (cm) 178.9; % fat 18.9;

V.ovrhdot.O2 peak

(ml kg<sup>-1</sup> min<sup>-1</sup>) 48.0; \*\*\*RER\*\*\* peak 1.03; HR peak

(bpm) 183.1 and

lactic acid peak (mmol.cntdot.l-1) 10.3. During KB

match-play, HR averaged

85% of peak during one hour of play. Moreover, 67% of match-play time, HR

was >80% of peak. When HR responses were examined over one hour of

match-play (twelve, five minute blocks) only the first five minutes were

significantly different (lower) than the other 55 minutes.

The exercise

intensity and the relatively stable HR response observed during HE

suggests that this activity appears to be appropriate for meeting the

American College of Sports Medicine guidelines to develop and maintain

cardiorespiratory fitness.

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on STN

DUPLICATE 7

ACCESSION NUMBER: 95284442 EMBASE

DOCUMENT NUMBER: 1995284442

TITLE: Intracellular events in the assembly of

very-low-density-lipoprotein lipids with

apolipoprotein B

in isolated rabbit hepatocytes.

AUTHOR: Cartwright I.J.; Higgins J.A.

CORPORATE SOURCE: Molecular Biology and

Biotechnology, University of

Sheffield, PO Box 594, Firth Court, Sheffield

S10 1UH,

United Kingdom

SOURCE: Biochemical Journal, (1995) 310/3 (897-907).

ISSN: 0264-6021 CODEN: BIJOAK

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 029 Clinical Biochemistry  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB Isolated rabbit hepatocytes incorporated 35S]methionine into cellular and secreted apolipoprotein B (apo-B), and [3H]glycerol into cellular and secreted triacylglycerol and phospholipids. Newly synthesized apo-B was incorporated into rough endoplasmic reticulum (\*\*\*RER\*\*\*), smooth endoplasmic reticulum (SER), cis-Golgi and trans-Golgi membranes and was preferentially transferred into the lumen of the \*\*\*RER\*\*\* with specific radioactivities ten times those in the membrane. Radiolabelled apo-B did not equilibrate with pre-existing unlabelled apo-B, and pools of different specific radioactivities were established in different subcellular fractions. Only a small fraction of the newly synthesized apo-B was transferred to the Golgi lumen. In pulse-chase experiments, most of the newly synthesized apo-B in the \*\*\*RER\*\*\* membrane and the \*\*\*RER\*\*\* lumen was degraded. [3H]Glycerol was incorporated into triacylglycerol and phospholipids in the lumen of the \*\*\*RER\*\*\*, SER, cis-Golgi and trans-Golgi. However, in contrast with apo-B, all of the radiolabelled lipids in the lumen of the \*\*\*RER\*\*\*, SER and cis-Golgi were transferred to the trans-Golgi lumen or secreted. Analysis of the lipid \*\*\*composition\*\*\* of the luminal content fractions suggests that, although very-low-density-lipoprotein (VLDL) lipids are present in the endoplasmic reticulum lumen, a large fraction of these is not associated with apo-B. Collectively these observations suggest that assembly of apo-B into complete VLDL is not cotranslational, that most lipids become associated with apo-B late in the endoplasmic reticulum compartment and that the lipids are further modified in the Golgi lumen.

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 on STN  
 ACCESSION NUMBER: 94225022 EMBASE  
 DOCUMENT NUMBER: 1994225022  
 TITLE: Fatness in relation to substrate oxidation during exercise.  
 AUTHOR: Geerling B.J.; Alles M.S.; Murgatroyd P.R.; Goldberg G.R.;  
 Harding L.M.; Prentice A.M.  
 CORPORATE SOURCE: MRC Dunn Clinical Nutrition Centre, Hills Road, Cambridge  
 CB2 2DH, United Kingdom  
 SOURCE: International Journal of Obesity, (1994) 18/7 (453-459).  
 ISSN: 0307-0565 CODEN: IJOBDP  
 COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 002 Physiology  
 003 Endocrinology  
 029 Clinical Biochemistry  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB The aim of this study was to test the hypothesis that differences in fuel utilisation during exercise, determined by muscle fibre-type profile, are an aetiological factor for obesity as proposed by Wade et al. An investigation was carried out of relationships between body fatness (assessed by skinfolds, densitometry and dual X-ray absorptiometry) and fuel utilisation represented by the respiratory exchange ratio (\*\*\*RER\*\*\*, assessed by indirect calorimetry) during three cycle ergometer exercises. Exercise 1 was an exact replication of the Wade protocol (fixed 100 Watt load and unstandardised with respect to antecedent diet and activity). Exercises 2 (fasted) and 3 (fed) were highly standardised and adjusted to represent the same relative workload for each subject (45% VO(2max)). The subjects were 37 randomly-selected untrained men. None of the exercises yielded significant correlations between fatness and \*\*\*RER\*\*\*. The results refute the initial hypothesis linking substrate oxidation and body fatness. Inspection of the body \*\*\*composition\*\*\* data for Wade's subjects reveals that they were abnormally lean. This suggests that their findings may have been confounded by coincident correlations between fitness and fatness, and may not represent a true causal relationship.

L4 ANSWER 31 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 94127130 EMBASE  
 DOCUMENT NUMBER: 1994127130  
 TITLE: High efficiency of type I muscle fibers improves performance.  
 AUTHOR: Horowitz J.F.; Sidossis L.S.; Coyle E.F.  
 CORPORATE SOURCE: Human Performance Laboratory,  
 The University of Texas at  
 Austin, Austin, TX 78712, United States  
 SOURCE: International Journal of Sports Medicine,  
 (1994) 15/3  
 (152-157).  
 ISSN: 0172-4622 CODEN: IJSMDA  
 COUNTRY: Germany  
 DOCUMENT TYPE: Journal; Conference Article  
 FILE SEGMENT: 002 Physiology  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB We have recently demonstrated that people with a high percentage of Type I muscle fibers display a relatively high muscular efficiency when cycling.

These individuals generate a relatively high muscular power output at a given steady-state level of oxygen consumption and caloric expenditure.

The purpose of this study was to directly determine the extent to which differences in muscle fiber \*\*\*composition\*\*\* and efficiency influence endurance performance in competitive cyclists. The percentage of Type I and II muscle fibers was determined from several biopsies from the vastus lateralis which were histochemically stained for ATPase activity. During a laboratory performance test, 14 endurance trained cyclists (mean  $\pm$  SE;  $\text{VO}_2\text{max}$ , 5.2  $\pm$  0.1 l/min; body weight, 74  $\pm$  1 kg) cycled an ergometer for 1 h at the highest work rate they could tolerate.  $\text{VO}_2$  and \*\*\*RER\*\*\* were simultaneously measured using open circuit spirometry for calculating caloric expenditure. Subjects were divided into two groups of seven according to their muscle fiber type \*\*\*composition\*\*\*: High % Type I Group (> 56% Type I fibers); Normal % Type I Group (38-55% Type I fibers). Each subject from High % Type I Group was paired with a subject from the Normal % Type I Group according to their similarity in  $\text{VO}_2\text{max}$ , blood lactate threshold and average  $\text{VO}_2$  maintained during the 1 h performance test. Both groups averaged 4.5  $\pm$  0.1 l/min during the 1 h performance test (i.e., 86-88%  $\text{VO}_2\text{max}$ ). However, the High % Type I Group, which possessed an average of 72  $\pm$  3% Type I fibers, was able to maintain a 9% higher power output (i.e., 342  $\pm$  9 vs 315  $\pm$  11 watts;  $p < 0.001$ ) than the Normal % Type I Group which possessed an average of 48  $\pm$  2% Type I fibers. Gross efficiency was thus significantly higher in the High % Type I Group compared to the Normal % Type I Group (i.e., 21.9  $\pm$  0.3% vs. 20.4  $\pm$  0.3%;  $p < 0.001$ ). We conclude that a high percentage of Type I muscle fibers improves endurance performance ability by significantly increasing the power output generated for a given rate of oxygen consumption and energy expenditure.

L4 ANSWER 32 OF 68 MEDLINE on STN  
 ACCESSION NUMBER: 95236117 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 7719768  
 TITLE: The effects of immobilization on the maturation of the anterior cruciate ligament of the rabbit knee.  
 AUTHOR: Amiel D; Wallace C D; Harwood F L  
 CORPORATE SOURCE: Department of Orthopaedics, University of California at San Diego, USA.  
 CONTRACT NUMBER: AGO7996 (NIA)  
 AR34264 (NIAMS)  
 AR38159 (NIAMS)

SOURCE: Iowa orthopaedic journal, (1994) 14 134-40.  
 Journal code: 8908272. ISSN: 1541-5457.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals; Space Life Sciences  
 ENTRY MONTH: 199505  
 ENTRY DATE: Entered STN: 19950605  
 Last Updated on STN: 19960129  
 Entered Medline: 19950523  
 AB Immobilization-induced alterations occurred in young anterior cruciate ligament (ACL) samples, including the loss of the rounded appearance of the cells. The mature ACL was minimally altered by immobilization at the light microscopy level. In the immobilized young ACL the fibroblasts became elongated and there was loss of the normal pericellular matrix. The immobilized mature ACL differed from controls primarily in the intracellular \*\*\*composition\*\*\*, as there was significantly more rough endoplasmic reticulum (\*\*\*RER\*\*\* ) present. Collagen concentrations were reduced only in young immobilized ACL, while no differences were observed in the mature ACL. The collagen synthesis rate in the mature ACL increased with immobilization, although no significant change was observed in the young ACL. The increase in the rate of synthesis of the stress deprived ACL in the mature animals reflected an increase in collagen turnover rather than an increase in accumulation of collagen.

L4 ANSWER 33 OF 68 CAPLUS COPYRIGHT 2005  
 ACS on STN  
 ACCESSION NUMBER: 1994:188383 CAPLUS  
 DOCUMENT NUMBER: 120:188383  
 TITLE: Mutations of a mutS homolog in hereditary nonpolyposis colorectal cancer  
 AUTHOR(S): Leach, Frederick S.; Nicolaides, Nicholas C.; Papadopoulos, Nickolas; Liu, Bo; Jen, Jin; Parsons, Ramon; Peltomaki, Paivi; Sistonen, Pertti; Aaltonen, Lauri A.  
 CORPORATE SOURCE: Johns Hopkins Oncol. Cent., Baltimore, MD, 21231, USA  
 SOURCE: Cell (Cambridge, MA, United States) (1993), 75(6), 1215-25  
 CODEN: CELLB5; ISSN: 0092-8674  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Recent studies have shown that a locus responsible for hereditary nonpolyposis colorectal cancer (HNPCC) is on chromosome 2p and that tumors developing in these patients contain alterations in microsatellite

sequences (RER+ phenotype). The authors have used chromosome microdissection to obtain highly polymorphic markers from chromosome 2p16. These and other markers were ordered in a panel of somatic cell hybrids and used to define a 0.8 Mb interval contg. the HNPCC locus. Candidate genes were then mapped, and one was found to lie within the 0.8 Mb interval. The authors identified this candidate by virtue of its homol. to mutS mismatch repair genes. CDNA clones were obtained and the sequence used to detect germ-line mutations, including those producing termination codons, in HNPCC kindreds. Somatic as well as germ-line mutations of the gene were identified in RER+ tumor cells. The mutS homolog is therefore likely to be responsible for HNPCC.

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on STN  
ACCESSION NUMBER: 93112716 EMBASE  
DOCUMENT NUMBER: 1993112716  
TITLE: Variation in total energy expenditure in young healthy free-living men.  
AUTHOR: Goran M.I.; Beer W.H.; Wolfe R.R.; Pochlman E.T.; Young V.R.  
CORPORATE SOURCE: Division of Endocrinology, Department of Medicine, University of Vermont, Burlington, VT 05405, United States  
SOURCE: Metabolism: Clinical and Experimental, (1993) 42/4 (487-496).

ISSN: 0026-0495 CODEN: METAAJ  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 002 Physiology  
029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Interindividual and intraindividual variation in total energy expenditure (TEE) were examined in 17 healthy, free-living men (weight, 56.4 to 82.4 kg; age, 18 to 30 years). TEE over 14 days, resting metabolic rate (RMR), and body \*\*\*composition\*\*\* were measured two or three times during 77 days of fixed caloric intake using doubly labeled water, respiratory gas analysis, and isotope dilution, respectively. When individual data were averaged, TEE was most significantly related to fat-free mass ([FFM]  $r = .73$ ,  $P = .001$ ), body mass ( $r = .70$ ,  $P = .002$ ), and RMR ( $r = .63$ ,  $P = .006$ ). After adjusting TEE for BM, a significant inverse relation with age was found (partial  $r = -.52$ ,  $P = .032$ ). Stepwise regression analysis showed that 69% of individual variation in TEE was explained by BM, age,

and fasting respiratory exchange ratio ( \*\*\*RER\*\*\* ). TEE/RMR averaged  $1.73 \pm 0.25$  (range, 1.38 to 2.32), and was independent of age and body \*\*\*composition\*\*\*. In 10 subjects in whom triplicate observations of TEE were performed, the average experimental variation for TEE was  $\pm 11.9\%$  (range, 6.1% to 19.6%) compared with a theoretical estimate of precision of  $\pm 5.9\%$  based on the reported isotope dose and analytical uncertainty. The difference between theoretical estimates of precision and observed experimental variation suggests that inherent random variation in free-living TEE is  $\pm 10\%$  (ie, square root of  $122 - 62$ ) in subjects maintained on fixed caloric intake. We conclude that in young free living men (1) BM, age, and \*\*\*RER\*\*\* are important determinants of TEE; and (2) intraindividual variation in TEE is approximately  $\pm 10\%$  due to fluctuations in physical activity levels within individuals over time.

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on STN  
ACCESSION NUMBER: 94024158 EMBASE  
DOCUMENT NUMBER: 1994024158  
TITLE: Intracisternal crystals in pancreatic acinar cells: Failure in the distinct aggregation of secretory proteins.  
AUTHOR: Arias A.E.; Bendayan M.  
CORPORATE SOURCE: Department of Anatomy, Universite de Montreal, CP 6128, Succ A, Montreal, Que. H3C 3J7, Canada  
SOURCE: European Journal of Cell Biology, (1993) 62/2 (282-293).  
ISSN: 0171-9335 CODEN: EJCBDN  
COUNTRY: Germany  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Mechanisms leading to the formation of crystalline inclusions in the cisternal space of the rough endoplasmic reticulum are poorly understood. This phenomenon was investigated in pancreatic acinar cells using two different experimental models: 1) Intraperitoneal injection of DL-p chlorophenylalanine methyl ester, and 2) culture of isolated acinar cells within the Matrigel basement membrane in the presence of 2% dimethyl sulfoxide. Features and \*\*\*composition\*\*\* of induced crystals were analyzed by protein A-gold and lectin-gold cytochemistry, electron microscope autoradiography, electron energy loss spectroscopic imaging and energy dispersive X-ray analysis. Crystal formation occurred in ribosome partially free rough endoplasmic reticulum ( \*\*\*RER\*\*\* ) regions and was

similar in both experimental protocols. The protein A-gold revealed the presence of nine major pancreatic enzymes in the crystals. However, the labeling intensities varied among enzymes with higher concentrations of amylase than chymotrypsinogen when compared to the secretory granules. Concanavalin A and Helix pomatia labelings were weak over the crystals and did not correspond to those of \*\*\*RER\*\*\* or secretory granules. Sulfur contents in crystals were lower than phosphorus and their ratio was opposite to the one found in secretory granules. Electron microscope autoradiography demonstrated incorporation of radiolabeled leucine and presence of newly synthesized proteins in the crystals. Furthermore, cells containing both crystals and secretory granules displayed silver grains in most of the cellular compartments involved in secretion. Thus, failure in the normal concentration and sorting process of secretory proteins leading to crystal formation includes changes in protein glycosylation and decrease of disulfide bond formation while retaining secretory capabilities.

L4 ANSWER 36 OF 68 EMBASE COPYRIGHT 2005  
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on STN  
ACCESSION NUMBER: 93281200 EMBASE  
DOCUMENT NUMBER: 1993281200  
TITLE: Histochemical localization and X-ray microanalysis of calcium in the rat submandibular gland: Demonstration of possible sites for microlith induction.  
AUTHOR: Takano Y.; Sato Y.; Ohshima H.; Maeda T.; Kawahara I.; Noguchi I.  
CORPORATE SOURCE: Department of Oral Anatomy II, Niigata Univ. School of Dentistry, 2-5274 Gakkocho-dori, Niigata 951, Japan  
SOURCE: Archives of Histology and Cytology, (1993) 56/2 (177-184).  
ISSN: 0914-9465 CODEN: AHCYEZ  
COUNTRY: Japan  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
005 General Pathology and Pathological Anatomy  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB Rapidly frozen and freeze-substituted submandibular glands of young female rats were embedded in Epon and processed for histochemical demonstration of calcium with the glyoxal bis (2-hydroxyanil) (GBHA) staining method. GBHA staining of thick Epon sections revealed discrete calcium reactions of moderate intensity in practically every secretory granule but not in

other compartments of the acinar cells. The saliva in the excretory duct was also reactive with GBHA and showed a drastic decrease in staining intensity toward the distal segments of excretory ducts with larger diameters. In addition, the duct saliva contained numerous tiny particles that were highly GBHA reactive. Stromal cells and cells lining the excretory duct were totally free of reactions. In the acinar cells, X-ray analysis detected distinct peaks for calcium in secretory granules and smaller ones in the Golgi apparatus, while they were undetectable in the rough surfaced endoplasmic reticulum ( \*\*\*RER\*\*\* ), implicating post-\*\*\*RER\*\*\* calcium loading in the secretory pathway. Electron- dense deposits in the duct saliva showed distinct peaks both for calcium and phosphorus, though these appeared in the acinar secretory granules and other cytoplasmic regions lacked phosphorus. Our observations thus demonstrated physiological calcium in the intra- as well as extracellular compartments of the submandibular gland, and further confirmed drastic changes in chemical \*\*\*composition\*\*\* along the synthetic and secretory pathways of the saliva, by both histochemical and X-ray microanalytical methods. GBHA staining of calcium combined with X-ray microanalysis is useful for an evaluation of the physiology and histo-pathological changes of the salivary glands associated with initial phases of microliths as well as sialoliths formation.

L4 ANSWER 37 OF 68 EMBASE COPYRIGHT 2005  
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on STN  
ACCESSION NUMBER: 93001564 EMBASE  
DOCUMENT NUMBER: 1993001564  
TITLE: Metabolic availability of oral glucose during exercise: A reassessment.  
AUTHOR: Massicotte D.; Peronnet F.; Adopo E.; Brisson G.R.; Hillaire-Marcel C.  
CORPORATE SOURCE: Departement de Kinanthropologie, Universite du Quebec a Montreal, C.P. 8888, Succursale A, Montreal, Que. H3C 3P8, Canada  
SOURCE: Metabolism: Clinical and Experimental, (1992) 41/12 (1284-1290).  
ISSN: 0026-0495 CODEN: METAAJ  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 002 Physiology  
029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB The purpose of this study was to reassess the metabolic availability of

oral glucose during prolonged exercise in man, using  $^{13}\text{C}$ -labeling and a computation procedure (J Appl Physiol 69:1047-1052, 1990) that correctly takes into account changes in isotopic \*\*\*composition\*\*\* of  $\text{CO}_2$  arising from oxidation of endogenous substrates (Rendo). These changes are due to glucose ingestion associated with exercise. Each of the seven subjects completed three 2-hour periods of exercise at 67% maximum oxygen consumption ( $\dot{V}_{\text{O}_2\text{max}}$ ) on an ergocycle, with ingestion of water (1,000 mL) or 60 g (in 1,000 mL water) of  $^{13}\text{C}$ -labeled glucose at two levels of enrichment ( $^{13}\text{C}/^{12}\text{C} = 1.11482\%$  and  $1.13303\%$ ). As expected, Rendo significantly increased from rest to exercise with water ingestion ( $1.09888\% \pm .00196\%$  to  $1.09970\% \pm .00175\%$ ) and with glucose ingestion ( $1.10002\% \pm .00159\%$ ) due to changes in the respective contributions of endogenous carbohydrates and fat to energy requirements as assessed by the respiratory exchange ratio (\*\*\*RER\*\*\*). When changes in Rendo were taken into account, the estimated amount of exogenous glucose oxidized was  $38.8 \pm 10.3$  g. Much higher values were found when Rendo at rest or during exercise with water ingestion were used in the computation ( $42.3 \pm 10.3$  to  $65.1 \pm 20.5$  g) according to the commonly used method. Examination of data in the literature indicates that the reported oxidation rate of exogenous glucose (g/min) is significantly related to oxygen consumption ( $\dot{V}_{\text{O}_2}$ ) (L/min;  $r = .592$ ) and that exogenous glucose contributes approximately 14% to 17% to the energy requirement. A similar relationship was observed in the present experiment ( $r = .696$ ), but the contribution of exogenous glucose to the energy requirement was only 7% to 9%. These observations suggest that when changes in Rendo due to ingestion of glucose associated with exercise are not taken into account, the metabolic availability of exogenous glucose can be overestimated.

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on STN  
 ACCESSION NUMBER: 93005160 EMBASE  
 DOCUMENT NUMBER: 1993005160  
 TITLE: Membrane biogenesis in the presence of ethanol.  
 AUTHOR: Slomiany A.; Grabska M.; Grzelinska E.; Yamaki K.-I.; Kasinathan C.; Slomiany B.A.; Slomiany B.L.  
 CORPORATE SOURCE: Research Center, UMDNJ-NJ Dental School, University Heights, 110 Bergen Street, Newark, NJ 07103-2400, United States

States  
 SOURCE: Alcoholism: Clinical and Experimental Research, (1992) 16/6 (1152-1161).  
 ISSN: 0145-6008 CODEN: ACRSDM  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article  
 FILE SEGMENT: 029 Clinical Biochemistry 040 Drug Dependence, Alcohol Abuse and Alcoholism  
 LANGUAGE: English  
 SUMMARY LANGUAGE: English  
 AB To investigate the effect of ethanol on the intracellular transport in gastric epithelial cells, the in vitro system, generating transport vesicles which transfer mucus glycoprotein apopeptide (apomucin) from rough endoplasmic reticulum (\*\*\*RER\*\*\*) to Golgi, was assembled. The vesicles, generated from gastric mucous cell \*\*\*RER\*\*\* microsomes and labeled with  $[^3\text{H}]$ palmitic acid, were isolated from the maternal \*\*\*RER\*\*\* and characterized. The electron microscopy revealed that these \*\*\*RER\*\*\* products consisted of 80 to 100 nm smooth membrane vesicles, while the immunochemical analyses showed that they contain apomucin but were devoid of the characteristic integral proteins of the \*\*\*RER\*\*\* membrane. Incubation of apomucin transporting vesicles with Golgi in the presence of UDP- $[^3\text{H}]$ galactose resulted in the formation of glycosylated mucin and fusion of the vesicles with Golgi. Formation of ER transport vesicles was dependent on the supply of lipid precursors, and the activity of phosphoglyceride and sphingolipid synthesizing enzymes. In the presence of 60 and 120 mM ethanol, the vesicles were formed, but their lipid \*\*\*composition\*\*\* was modified. The results suggest that ethanol-induced membrane alterations are initiated at the early stages of the membrane biogenesis and are first reflected in the lipid \*\*\*composition\*\*\* of the intracellular transport vesicles.

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on STN  
 ACCESSION NUMBER: 92037271 EMBASE  
 DOCUMENT NUMBER: 1992037271  
 TITLE: Effect of dietary fat on Ito cell activation by chronic ethanol intake: A long-term serial morphometric study on alcohol-fed and control rats.  
 AUTHOR: Takahashi H.; Wong K.; Jui L.; Nanji A.A.; Mendenhall C.S.; French S.W.  
 CORPORATE SOURCE: Department of Pathology, Los Angeles County Harbor, UCLA Medical Center, 1000 West Carson Street, Torrance, CA 90509, United States

SOURCE: Alcoholism: Clinical and Experimental Research, (1991) 15/6 (1060-1066).  
ISSN: 0145-6008 CODEN: ACRSDM  
COUNTRY: United States  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 040 Drug Dependence, Alcohol Abuse and Alcoholism  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB We studied the effects of long-term ethanol ingestion and dietary fat on Ito cell activation morphometrically in rats. Sixteen pairs of Wistar male rats were divided into two groups, one fed tallow and the other fed corn oil as the source of dietary fat. Each group of rats were pair-fed a nutritional adequate liquid diet containing either corn oil (CF) or tallow (TF) as fat as well as protein and carbohydrate. Half of each group received ethanol, the rest were pair-fed isocaloric amounts of dextrose via an implanted gastric tube for up to 5 months. Morphometric analysis of the change in fat and rough endoplasmic reticulum (\*\*\*RER\*\*\*) of Ito cells was performed on electron micrographs obtained from monthly biopsies including baseline. Ito cell activation was assessed by a decrease in the ratio of fat/ \*\*\*RER\*\*\* in Ito cells. The ratio of fat/ \*\*\*RER\*\*\* in Ito cells of alcoholic rats fed the CF diet (CFA) gradually decreased. The ratio was found to be lower than in the pair-fed control rats (CFC) at 5 months of feeding. CFA: 1.74  $\pm$  0.57, vs. 7.46  $\pm$  2.05, respectively,  $p < 0.05$ , mean  $\pm$  SE. Ito cell fat also significantly decreased at 5 months of feeding ( $p < 0.05$ ). The fat/ \*\*\*RER\*\*\* ratio in CFA significantly decreased only subsequent to the development of fatty change, necrosis, and inflammation followed by fibrosis of the liver. In contrast, the TFA rats did not show a significant decrease in the fat/ \*\*\*RER\*\*\* ratio in the Ito cells throughout the study, while TFC rats showed an increase in the fat/ \*\*\*RER\*\*\* ratio. Minimal pathological changes were observed in the livers of CFC, TFA, and TFC rats. These results indicate that activation of Ito cells at a significant level occurred only late in the course of feeding alcohol after moderate to severe abnormalities in liver histology had developed, although activation may have begun at an earlier time of ethanol feeding. The results indicate that dietary fatty acid \*\*\*composition\*\*\* may be an important factor in the pathogenesis of ethanol-induced Ito cell activation.

L4 ANSWER 40 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.

on STN  
ACCESSION NUMBER: 91090101 EMBASE  
DOCUMENT NUMBER: 1991090101  
TITLE: Subcompartment sugar residues of gastric surface mucous cells studied with labeled lectins.  
AUTHOR: Ihida K.; Tsuyama S.; Kashio N.; Murata F.  
CORPORATE SOURCE: Department of Anatomy, Faculty of Medicine, Kagoshima University, 8-35-1 Sakuragaoka, Kagoshima 890, Japan  
SOURCE: Histochemistry, (1991) 95/4 (329-335).  
ISSN: 0301-5564 CODEN: HCMYAL  
COUNTRY: Germany  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
005 General Pathology and Pathological Anatomy  
048 Gastroenterology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
AB We examined the intracellular localization of sugar residues of the rat gastric surface mucous cells in relation to the functional polarity of the cell organelles using preembedding method with several lectins. In the surface mucous cells, the nuclear envelope and rough endoplasmic reticulum (\*\*\*RER\*\*\*) and cis cisternae of the Golgi stacks were intensely stained with Maclura pomifera (MPA), which is specific to .alpha.-Gal and GalNAc residues. In the Golgi apparatus, one or two cis side cisternae were stained with MPA and Dolichos biflorus (DBA) which is specific to terminal .alpha.-N-acetylgalactosamine residues, while the intermediate lamellae were intensely labeled with Arachis hypogaea (PNA) which is specific to Gal.beta. 1,3 GalNAc. Cisternae of the trans Golgi region were also stained with MPA, Ricinus communis I (RCA I) which is specific to .beta.-Gal and Limax flavus (LFA) which is specific to .alpha.-NeuAc. Immature mucous granules which are contiguous with the trans Golgi lamellae were weakly stained with RCA I, while LFA stained both immature and mature granules. The differences between each lectin's reactivity in the rough endoplasmic reticulum, in each compartment of the Golgi lamellae and in the secretory granules suggest that there are \*\*\*compositional\*\*\* and structural differences between the glycoconjugates in the respective cell organelles, reflecting the various processes of glycosylation in the gastric surface mucous cells.

L4 ANSWER 41 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN  
ACCESSION NUMBER: 91224795 EMBASE  
DOCUMENT NUMBER: 1991224795

TITLE: Ultrastructural study of cholinergic neurons in the medial septal nucleus and vertical limb of the diagonal band of Broca in the basal forebrain of the rat.

AUTHOR: Palacios G.; Garcia-Ladona J.; Codina M.

CORPORATE SOURCE: Dept. of Cell. Biol./Physiol., Faculty of Medicine, Autonomous University, Barcelona, Spain

SOURCE: Journal of Chemical Neuroanatomy, (1991) 4/3 (205-221).

ISSN: 0891-0618 CODEN: JCNAEE

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
008 Neurology and Neurosurgery

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The morphology, ultrastructure and synaptic relationships of the cholinergic and non-cholinergic neurons in the medial septal nucleus (MS) and vertical limb of the diagonal band of Broca (VDB) in the basal forebrain of the rat were studied at the light and electron microscopic levels. The cholinergic neurons were localized immunocytochemically using a monoclonal antibody against choline acetyltransferase (ChAT). Morphometric and statistical analyses showed that ChAT labelled cells presented a predominantly oval morphology in both nuclei. The sizes of the neurons were significantly larger in the VDB nucleus. Within the two nuclei, two populations of cholinergic neurons were differentiated. One of the large immunolabelled neurons presented deep indentations and prominent nucleoli in their nonimmunoreactive nuclei. Their cytoplasm contained a well-organized endomembrane system composed of short cisternae of rough endoplasmic reticulum ( \*\*\*RER\*\*\* ). One or two lamellar bodies with a peculiar ultrastructure were frequently found intercalated in this system. The Golgi areas presented numerous coated vesicles, sequestration and multivesicular bodies, which was indicative of an intense metabolic activity in these cells. The second population of small immunolabelled neurons exhibited reduced cytoplasm with a poorly developed endomembrane system and apparent absence of lamellar bodies. The neighbouring non-immunolabelled neurons presented a different type of organization of the endomembrane system which was composed of scattered and loosely arranged elongated cisternae of \*\*\*RER\*\*\* and infrequent lamellar bodies, with a structure different from that seen in the large cholinergic neurons. We propose that the structural differences in \*\*\*composition\*\*\*

of the endomembrane system and lamellar bodies observed in the three types of neurons in this study indicate different metabolic activities. Symmetrical and asymmetrical synaptic contacts were observed on somata and dendrites of labelled neurons, the latter being more frequent. ChAT-labelled axon boutons were never seen. The absence of immunolabelled axon terminals and the presence of immunolabelled myelinated axons leads us to suggest that the majority of neurons in these areas are of the long projecting type.

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on STN

ACCESSION NUMBER: 90022494 EMBASE  
DOCUMENT NUMBER: 1990022494

TITLE: Effects of run-training and swim-training at similar absolute intensities on treadmill V.ovrhdot.O(2max).

AUTHOR: Lieber D.C.; Lieber R.L.; Adams W.C.

CORPORATE SOURCE: Human Performance Laboratory, Department of Physical Education, University of California, Davis, CA 95616, United States

SOURCE: Medicine and Science in Sports and Exercise, (1989) 21/6 (655-661).

ISSN: 0195-9131 CODEN: MSCSBJ

COUNTRY: United States

DOCUMENT TYPE: Journal; Article

FILE SEGMENT: 002 Physiology  
035 Occupational Health and Industrial Medicine

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Thirty-seven sedentary males, aged 28-35 yr, were either run-trained, swim-trained, or served as controls in an 11 1/2-wk training study. Runners and swimmers exercise once a d, 3 d.cntdot.wk, at a heart rate (HR) intensity equivalent to 75% of their treadmill V.ovrhdot.O(2max). Treadmill maximal oxygen consumption (V.ovrhdot.O(2max)), submaximal cardiorespiratory response, and body \*\*\*composition\*\*\* parameters were measured before and following the training period. Runners, swimmers, and controls experienced a significant increase in treadmill V.ovrhdot.O(2max) over the 11 1/2-wk study period. The 28 and 25% increases observed for the runners and swimmers, respectively, were significantly greater than the 5% increase observed for the controls (P < 0.0001). Runners and swimmers did not differ significantly from each other with respect to this increase in V.ovrhdot.O(2max); nor did they demonstrate significant changes in respiratory exchange ratio ( \*\*\*RER\*\*\* ) at V.ovrhdot.O(2max) between



tests. The run-trained and swim-trained groups both experienced a decrease in HR at a standard submaximal walking workload but did not differ significantly from each other. Controls showed no significant change in submaximal exercise response. A significant difference was observed among groups ( $P < 0.01$ ) for change in percent body fat. Changes in lean and fat weight over the training period were significant for both the runners ( $P < 0.002$ ) and swimmers ( $P < 0.03$ ) but not for the controls. Taken together, these data do not refute the concept of training specificity but do place restrictions on the conditions under which training specificity may be demonstrated. For example, under the training conditions in this study, central cardiovascular stresses were nearly equivalent, and therefore experimental groups, although trained in different exercise modes, demonstrated improvements in treadmill  $\dot{V}_{O_2 \max}$  which were significant, equivalent, and not mode specific.

L4 ANSWER 43 OF 68 MEDLINE on STN  
 DUPLICATE 8  
 ACCESSION NUMBER: 87109446 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 3027103  
 TITLE: A vesicular intermediate in the transport of hepatoma secretory proteins from the rough endoplasmic reticulum to the Golgi complex.  
 AUTHOR: Lodish H F; Kong N; Hirani S; Rasmussen J  
 CONTRACT NUMBER: GM27989 (NIGMS)  
 SOURCE: Journal of cell biology, (1987 Feb) 104 (2) 221-30.  
 Journal code: 0375356. ISSN: 0021-9525.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198703  
 ENTRY DATE: Entered STN: 19900303  
 Last Updated on STN: 19970203  
 Entered Medline: 19870311

AB We have identified a vesicle fraction that contains alpha 1-antitrypsin and other human HepG2 hepatoma secretory proteins en route from the rough endoplasmic reticulum (RER) to the cis face of the Golgi complex. [35S]Methionine pulse-labeled cells were chased for various periods of time, and then a postnuclear supernatant fraction was resolved on a shallow sucrose-D<sub>2</sub>O gradient. This intermediate fraction has a density lighter than RER or Golgi vesicles. Most alpha 1-antitrypsin in this fraction (P1) bears N-linked oligosaccharides of \*\*\*composition\*\*\* similar to that of alpha 1-antitrypsin within the \*\*\*RER\*\*\*; mainly

Man8GlcNac2 with lesser amounts of Man7GlcNac2 and Man9GlcNac2; this suggests that the protein has not yet reacted with alpha-mannosidase-I on the cis face of the Golgi complex. This light vesicle species is the first post-ER fraction to be filled by labeled alpha 1-antitrypsin after a short chase, and newly made secretory proteins enter this compartment in proportion to their rate of exit from the RER and their rate of secretion from the cells: alpha 1-antitrypsin and albumin faster than preC3 and alpha 1-antichymotrypsin, faster, in turn, then transferrin. Deoxynojirimycin, a drug that blocks removal of glucose residues from alpha 1-antitrypsin in the RER and blocks its intracellular maturation, also blocks its appearance in this intermediate compartment. Upon further chase of the cells, we detect sequential maturation of alpha 1-antitrypsin to two other intracellular forms: first, P2, a form that has the same gel mobility as P1 but that bears an endoglycosidase H-resistant oligosaccharide and is found in a compartment--probably the medial Golgi complex--of density higher than that of the intermediate that contains P1; and second, the mature sialylated form of alpha 1-antitrypsin.

L4 ANSWER 44 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 86234276 EMBASE  
 DOCUMENT NUMBER: 1986234276  
 TITLE: A quantitative comparison of satellite cell ultrastructure in Duchenne muscular dystrophy, polymyositis, and normal controls.  
 AUTHOR: Watkins S.C.; Cullen M.J.  
 CORPORATE SOURCE: Muscular Dystrophy Research Laboratories, Newcastle General Hospital, Newcastle upon Tyne, NE4 6BE, United Kingdom  
 SOURCE: Muscle and Nerve, (1986) 9/8 (724-730).  
 CODEN: MUNEDE  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 022 Human Genetics  
 008 Neurology and Neurosurgery  
 005 General Pathology and Pathological Anatomy  
 001 Anatomy, Anthropology, Embryology and Histology  
 LANGUAGE: English  
 AB Failure of the muscle to regenerate successfully is an important feature of the pathology of Duchenne muscular dystrophy (DMD). It is known that this is not due to a numerical reduction in the population of satellite cells. We have therefore examined the ultrastructural \*\*\*composition\*\*\* of the satellite cells in 25 DMD cases and compared them with satellite

cells from normal subjects and from polymyositis patients to try to identify morphological features that might be associated with an impaired developmental competence. Profiles of randomly and serially sectioned satellite cells were analyzed stereologically to obtain nuclear and cytoplasmic areas. Within the cytoplasm, the areas occupied by mitochondria, rough endoplasmic reticulum (\*\*\*RER\*\*\*), and Golgi apparatus were measured. Micropinocytotic vesicles (MPVs) at the periphery of the cells were counted. The nucleus to cytoplasm ratios and mitochondrial, \*\*\*RER\*\*\*, and Golgi volume fractions were not significantly different in the three satellite cell samples. The cells in the DMD sample contained more MPVs than those in the normal subjects. This is attributed to a generalized cell response to a physiologically altered environment in the diseased muscle.

L4 ANSWER 45 OF 68 MEDLINE on STN  
 DUPLICATE 9  
 ACCESSION NUMBER: 86088075 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 3878394  
 TITLE: The neuronal endomembrane system. III. The origins of the axoplasmic reticulum and discrete axonal cisternae at the axon hillock.  
 AUTHOR: Lindsey J D; Ellisman M H  
 CONTRACT NUMBER: NS14718 (NINDS) P41-RR00592 (NCRR)  
 SOURCE: Journal of neuroscience : official journal of the Society for Neuroscience, (1985 Dec) 5 (12) 3135-44. Journal code: 8102140. ISSN: 0270-6474.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198602  
 ENTRY DATE: Entered STN: 19900321  
 Last Updated on STN: 19970203  
 Entered Medline: 19860207

AB The axoplasmic reticulum (AR) and the discrete element (e.g., vesicles, vesiculotubular bodies, multivesicular bodies, etc.) constitute the endomembrane system of the axon. It is reported here that the AR of bullfrog sciatic nerve readily fills with osmium deposits during osmium impregnation. In contrast, the discrete elements and mitochondria are highly resistant to impregnation. Hence this preparation is well suited to address the nature of possible interactions between AR and rough endoplasmic reticulum (RER) in the axon hillock. It is also ideal to study the origin of the axonal discrete elements within the cell body as

well as their interaction with other somal endomembrane system components.

Tissues used in the present study were spinal ganglia, sciatic nerve, and spinal roots from *Rana catesbeiana*. Thick sections (1 to 2 microm) of this material were studied by high voltage electron microscopy. In some cases, osmium impregnation was followed by en bloc staining with lead aspartate. This made visible membranous structures that had not filled with osmium deposits during impregnation. Serial 170-nm-thick sections of this latter material were prepared and serial stereo pair electron micrographs of axon hillocks were collected. These were used to reconstruct three-dimensionally the AR and to study its relationship with RER and with discrete elements. The impregnated AR within the axon hillock was found to terminate as many proximally pointing finger-like projections. A large portion of these projections were found to form connections with RER. Some, however, terminated as true blind endings. Single unimpregnated discrete cisternae were found throughout the cytoplasm of the cell body, axon hillock, and axon. Large clusters of unimpregnated vesicles were usually found in close association with the trans face of the Golgi apparatus. These results indirectly support the hypothesis that vectors of fast axonal transport, namely the discrete elements, form directly at the trans face of the Golgi apparatus. From here they move toward and subsequently down the axon without any membrane fission-fusion events with either RER or AR. AR, although it forms continuities with \*\*\*RER\*\*\*, retains a distinctly different chemical \*\*\*composition\*\*\* from \*\*\*RER\*\*\* as evidenced by its much higher affinity for osmium. Thus, it should be considered as an endomembrane component separate from, although intimately related to the RER.

L4 ANSWER 46 OF 68 EMBASE COPYRIGHT 2005  
 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN  
 ACCESSION NUMBER: 86039540 EMBASE  
 DOCUMENT NUMBER: 1986039540  
 TITLE: Ultrastructure of salivary glands of *Ornithodoros* (*Ornithodoros*) *moubata* (Ixodoidea: Argasidae).  
 AUTHOR: El Shoura S.M.  
 CORPORATE SOURCE: Department of Entomology, London School of Hygiene and Tropical Medicine, London WC1E 7HT, United Kingdom  
 SOURCE: Journal of Morphology, (1985) 186/1 (45-52).  
 CODEN: JOMOAT  
 COUNTRY: United States

DOCUMENT TYPE: Journal  
 FILE SEGMENT: 004 Microbiology  
 LANGUAGE: English  
 AB The paired salivary glands of unfed adult Ornithodoros (Ornithodoros) moubata are composed of type I (agranular) and type II (granular) alveoli.  
 Type I alveoli consist of one large central cell surrounded by peripheral cells having the morphology of fluid-transporting epithelia. Type II alveoli contain granular and agranular cells; the former are comprised of morphologically distinct types of cells (a, b, and c) containing granules of different structures and chemical \*\*\*composition\*\*\* with respect to polysaccharide and protein. The agranular cells are the interstitial and cap cells. Golgi bodies and rough endoplasmic reticulum (\*\*\*RER\*\*\* ) are found in all granular cells and apparently are involved in granule formation. No appreciable structural changes were observed in type I alveoli during or after feeding. Type c cell granules are released before granules from types a and b cells and may contain anticoagulant substances that promote the blood flow of the host during the tick feeding. Although the cap cells are not structurally affected by feeding, interstitial cells are developed into transporting epithelia.

L4 ANSWER 47 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN  
 ACCESSION NUMBER: 85035921 EMBASE  
 DOCUMENT NUMBER: 1985035921  
 TITLE: [Rough endoplasmatic reticulum in endothelial cells of blood vessels].  
 RAUHES ENDOPLASMATISCHES RETICULUM IN DEN ENDOTHELZELLEN GROSZER BLUTGEFASZE.  
 AUTHOR: Nikolov S.D.; Vancov V.N.  
 CORPORATE SOURCE: Institut fur Anatomie und Histologie der Medizinischen Hochschule Varna, BG 9002 Varna, Bulgaria  
 SOURCE: Zeitschrift fur Mikroskopisch-Anatomische Forschung - Abteilung 2, (1984) 98/4 (502-512).  
 CODEN: ZMAFB3  
 COUNTRY: Germany  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
 021 Developmental Biology and Teratology  
 018 Cardiovascular Diseases and Cardiovascular Surgery  
 LANGUAGE: German  
 SUMMARY LANGUAGE: English  
 AB The development of rough endoplasmic reticulum (\*\*\*RER\*\*\* ) in endothelial cells (EC) follows the changes of the arterial and venous endothelium through the age. In the first half of the gestation

\*\*\*RER\*\*\* is a highly developed system consisted of communicating cisternae which contain an electron dense matrix. In the same time, the Golgi complex is poorly developed. In the second half of the gestation, as well as in newborn and in the most of EC during the first 10-20 postnatal days, \*\*\*RER\*\*\* is also well-developed but, the Golgi complex is very well organized. These morphological features suggest that younger EC are able to synthesize and secrete thus being involved in the \*\*\*composition\*\*\* and differentiation of the vascular wall. In adult animals, only a single EC reveal a well-developed \*\*\*RER\*\*\* ; there are probably secretions differentiated cells which continue to persist within the developed permeability active endothelium. It is though, that the fluctuation in the structural development of the \*\*\*RER\*\*\* in EC during aging may be related to their synthetic and secretory capacity.

L4 ANSWER 48 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
 on STN  
 ACCESSION NUMBER: 85118583 EMBASE  
 DOCUMENT NUMBER: 1985118583  
 TITLE: The ultrastructure of myocardial hypertrophy: Why does the compensated heart fail?.  
 AUTHOR: Legato M.J.; Mulieri L.A.; Alpert N.R.  
 CORPORATE SOURCE: Department of Medicine, St. Lukes-Roosevelt Hospital Center, Columbia University College of Physicians and Surgeons, New York, NY, United States  
 SOURCE: European Heart Journal, (1984) 5/SUPPL. F (251-269).  
 CODEN: EHJODF  
 COUNTRY: United Kingdom  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 005 General Pathology and Pathological Anatomy  
 018 Cardiovascular Diseases and Cardiovascular Surgery  
 049 Forensic Science Abstracts  
 LANGUAGE: English  
 AB Several qualitative features of the ultrastructure of pressure overload and thyrotoxic myocardium are unique markers of the type and quantity of increased work the heart has been required to perform. Furthermore, they are reminiscent of features of normally growing myocytes, implying that the changes in the hypertrophied cell are the consequence of normally present capacities for adaptation to a demand for increased myocardial work. Thyrotoxic myocardium has two features which distinguish it from normal and pressure overloaded hearts: the mitochondria are large and have a peculiar fragile or lacey appearance. Many myocytes show considerable

disorganization of sarcomeric myofilaments. Pressure overloaded hearts have smaller and more numerous mitochondria than the normal myocyte. Their sarcomeres have thicker Z bands than controls. Double intercalated discs are also a feature of these myocytes. Several features of hypertrophied myocytes are seen in both types of hypertrophy: \*\*\*RER\*\*\* and ribosomes on the external nuclear membrane. There are polyribosomes aligned along the long axes of thick filaments, presumably involved in myosin synthesis or transformation within the cell. There are areas of sarcomerogenesis both under the sarcolemma and within the cell at the intercalated disc. These are characterized by fragments of myofilaments, polyribosomes and rough endoplasmic reticulum. Quantitatively, myocyte \*\*\*composition\*\*\* is transiently disturbed but, like that of normally growing hearts, returns to control values as the adaptation to stress is negotiated.

L4 ANSWER 49 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN  
ACCESSION NUMBER: 83142176 EMBASE  
DOCUMENT NUMBER: 1983142176  
TITLE: Biosynthesis of high density lipoprotein by chicken liver:  
Nature of nascent intracellular high density lipoprotein.  
AUTHOR: Banerjee D.; Redman C.M.  
CORPORATE SOURCE: Lindsley F. Kimball Res. Inst., New York Blood Cent., New York, NY 10021, United States  
SOURCE: Journal of Cell Biology, (1983) 96/3 (651-660).

CODEN: JCLBA3  
COUNTRY: United States  
DOCUMENT TYPE: Journal  
FILE SEGMENT: 003 Endocrinology  
029 Clinical Biochemistry  
048 Gastroenterology  
023 Nuclear Medicine

LANGUAGE: English  
AB Young chickens were administered L-[3H]leucine and after 10 or 30 min the livers were removed and fractionated into rough (\*\*\*RER\*\*\* ) and smooth (SER) endoplasmic reticulum fractions and into light, intermediate, and heavy Golgi cell fractions. The labeled high density lipoprotein (HDL), contained within these intracellular organelles was isolated either by immunoprecipitation using rabbit antiserum to rooster HDL, or by ultracentrifugal flotation between densities 1.063 and 1.21 g/ml. The radioactive apoproteins of nascent HDL were analyzed by SDS PAGE and detected by fluorography. Analyses of radioactive apoproteins obtained by

immunoprecipitation from the contents of the \*\*\*RER\*\*\* , the SER, and the three Golgi complex fractions revealed only one apoprotein, A1. The C peptide present in serum HDL was not detected intracellularly. The radioactive apoprotein A1 which is present within the cisternae of the \*\*\*RER\*\*\* and the SER fractions failed to float, whereas apoprotein A1, present within the Golgi apparatus, readily floated between densities 1.063 and 1.21 g/ml. The HDL particles, isolated by flotation from the Golgi apparatus content, were further characterized by lipid and protein analyses and by electron microscopy. Golgi HDL particles have the same density as serum HDL. On a percentage basis, Golgi HDL contains less protein and more phospholipids than does serum HDL. Morphologically, Golgi HDL is different in appearance from serum HDL. It is more heterogeneous in size, with most of the particles ranging 8.3-25 nm in diameter. The spherical particles contain small membrane tails. Occasionally, a few disk-shaped bilayer structures are also found within the Golgi apparatus. These studies show that the newly synthesized apoprotein A1, present within the \*\*\*RER\*\*\* and the SER cell fractions, is not fully complexed with lipid and that apoprotein A1 does not acquire sufficient lipid to float at the proper HDL density until it enters the Golgi apparatus. The difference in chemical \*\*\*composition\*\*\* and the heterogeneous size of Golgi HDL may be attributed to the different stages of HDL maturation.

L4 ANSWER 50 OF 68 EMBASE COPYRIGHT 2005 ELSEVIER INC. ALL RIGHTS RESERVED.  
on STN  
ACCESSION NUMBER: 84011735 EMBASE  
DOCUMENT NUMBER: 1984011735  
TITLE: Occurrence of crystalloids in the sinusoidal endothelial cell of a crab-eating monkey liver.  
AUTHOR: Tanuma Y.  
CORPORATE SOURCE: Dep. Anat., Teikyo Univ. Sch. Med., Tokyo 173, Japan  
SOURCE: Archivum Histologicum Japonicum, (1983) 46/4 (523-531).  
CODEN: AHJPB6  
COUNTRY: Japan  
DOCUMENT TYPE: Journal  
FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
LANGUAGE: English  
AB An electron microscope examination of the liver of the crab-eating monkey revealed small crystalloids occurring occasionally in the thicker portion of the cytoplasmic extension of the sinusoidal endothelium. They were

uniformly encased in a membrane sac which was mostly smooth-surfaced but was at several points continuous to ribosome-studded cisternae of the \*\*\*RER\*\*\*. The crystalloids were mostly polygonal in configuration and were classified into three types. Type I crystalloids, according to the grade of the complexity of their \*\*\*composition\*\*\*, represented the simplest, or original, form and were composed purely of a compact bundle of tubules measuring about 300 .ANG. in diameter. Types II and III crystalloids were composed of tubules and an electron lucent matrix. In type II crystalloids, the tubules were embedded parallel to one another in two sets of matrix layers which crossed each other at a right angle, while in type III, the matrix layers embedding the tubules cut each other at about 70.degree.. The crystalloids are presumed to have developed from a substance synthesized in the cisternae of the \*\*\*RER\*\*\* in the sinusoidal endothelial cell and their investigation may aid in elucidating the proteinic products of this \*\*\*RER\*\*\*-rich cell which have thus far remained under dispute.

L4 ANSWER 51 OF 68 CAPLUS COPYRIGHT 2005  
ACS on STN  
ACCESSION NUMBER: 1982:436929 CAPLUS  
DOCUMENT NUMBER: 97:36929  
TITLE: Fatty acid composition of lipids and physicochemical

characteristics of thymus and Pliss' lymphosarcoma membrane fractions

AUTHOR(S): Sherban, S. D.; Danko, M. I.; Monastyrskaya, B. D.; Morgun, V. Ya.; Baglei, E. A.  
CORPORATE SOURCE: R. E. Kavetskii Inst. Oncol. Probl., Kiev, USSR  
SOURCE: Ukrainskii Biokhimicheskii Zhurnal (1978-1999) (1982), 54(3), 298-306  
CODEN: UBZHD4; ISSN: 0201-8470

DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB The percentages of 8 fatty acids in the phospholipids and neutral lipids of plasma membrane and endoplasmic reticulum of thymus and lymphosarcoma cells were detd. No qual. differences between the normal and tumor cells were obsd. The fatty acid spectrum of the phospholipids of thymocyte plasma membrane differed from that of the smooth endoplasmic reticulum (SER), but the fatty acid spectra of the neutral lipids of the 2 membranes were practically identical. The \*\*\*compn\*\*\* of rough endoplasmic reticulum ( \*\*\*RER\*\*\* ) neutral lipids differed from the \*\*\*compns\*\*\* of the other fractions. Quant., the tumor cells differed from

thymocytes in the lower concns. of C20:3 and C22:6 fatty acids in their plasma membrane phospholipids and higher proportions of satd. fatty acids in their neutral lipids. In growing tumor cells, the proportion of unsatd. fatty acids in the plasma membrane and SER increased with growth, the cholesterol/phospholipid ratio decreased, and membrane fluidity (measured with fluorescence-polarization probes) decreased. At the same time, fatty acid satn. in the RER increased, but the cholesterol/phospholipid ratio and membrane fluidity did not change.

L4 ANSWER 52 OF 68 MEDLINE on STN  
DUPLICATE 10  
ACCESSION NUMBER: 82012627 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 6268923  
TITLE: Effect of diabetes and insulin replacement on the lipid

properties of hepatic smooth endoplasmic reticulum.

AUTHOR: Holloway C T; Garfield S A  
CONTRACT NUMBER: 5P60AM22125 (NIADDK)  
AM 26873 (NIADDK)  
HL 19936 (NHLBI)

SOURCE: Lipids, (1981 Jul) 16 (7) 525-32.  
Journal code: 0060450. ISSN: 0024-4201.

PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198111  
ENTRY DATE: Entered STN: 19900316  
Last Updated on STN: 19970203  
Entered Medline: 19811118

AB This study is a characterization of the lipid properties of the smooth and rough endoplasmic reticulum (SER, RER) of liver from streptozotocin-induced diabetic rats. A significant decrease in membrane microviscosity was observed in the SER but not the RER of diabetic rats when compared to that of normal controls. This decrease in SER membrane microviscosity correlated with a decrease in cholesterol/phospholipid ratio of these membranes that could be accounted for solely by a change in the membrane cholesterol content. Changes in phospholipid fatty acyl chain composition were also observed in the SER membranes but these changes were small when compared to the large change in cholesterol content observed. Insulin treatment for only one day did not significantly alter the microviscosity of the SER but after 2, 4 and 6 days of treatment both membrane microviscosity and membrane cholesterol content were restored to values similar to those for normal animals. No significant changes in the \*\*\*RER\*\*\* lipid \*\*\*composition\*\*\* were observed. It is well known

that increases in glucose-6-Pase (G-6-Pase) activity of liver ER membranes are associated with diabetic onset. An increase in the specific activity of G-6-Pase was observed in both SER and RER membrane preparations, although the observed increase in the SER membrane is higher. The changes in the G-6-Pase activity of the SER membranes were correlated with the alterations in the microviscosity and lipid composition of these membranes. It is postulated that lipid properties of the SER membranes may contribute to the regulation of G-6-Pase activity in that membrane.

L4 ANSWER 53 OF 68 MEDLINE on STN  
 DUPLICATE 11  
 ACCESSION NUMBER: 82031028 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 7026572  
 TITLE: In vitro uptake and processing of prezein and other maize preproteins by maize membranes.  
 AUTHOR: Burr F A; Burr B  
 CONTRACT NUMBER: GM 28302-01 (NIGMS)  
 GM24057 (NIGMS)  
 SOURCE: Journal of cell biology, (1981 Aug) 90 (2) 427-34.

Journal code: 0375356. ISSN: 0021-9525.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198112  
 ENTRY DATE: Entered STN: 19900316  
 Last Updated on STN: 20000303  
 Entered Medline: 19811215  
 AB A cell-free, mRNA-dependent system has been developed for the translation and processing of zein preproteins. A rough endoplasmic reticulum (RER)-enriched fraction, isolated by sucrose density gradients, can be treated with micrococcal nuclease to destroy endogenous messages. When these membranes are added to a wheat germ protein-synthesizing system together with zein mRNA, synthesis and processing of the polypeptides to the mature products takes place. The \*\*\*RER\*\*\* fraction from the endosperm has a different protein \*\*\*composition\*\*\* than that prepared from either the shoot or nucellar tissue and processes prezein more efficiently. The cleavage of the preproteins appears to be a cotranslational step as the completed preprotein chains cannot be processed, although they can be taken up to a limited extent. This small uptake, or absorption, or unprocessed zein seems to be an artifact and may be related to the unusual solubility properties of zein. Finally a sodium dodecyl sulfate (SDS)-urea polyacrylamide gel system has been developed

which is particularly suited for the separation of low molecular weight proteins (less than 10,000 daltons). Using this method, we examined the products of in vitro zein processing and detected no presequence polypeptides. This suggests that the zein cleavage proteinase is probably an exopeptidase.

L4 ANSWER 54 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 81055450 EMBASE  
 DOCUMENT NUMBER: 1981055450  
 TITLE: Long-term evolution of the main changes induced by thioacetamide on hepatocytes.  
 AUTHOR: Pollera M.; Malvaldi G.  
 CORPORATE SOURCE: Ist. Patol. Gen., Univ., 56100 Pisa, Italy  
 SOURCE: Tumori, (1980) 66/5 (529-548).  
 CODEN: TUMOAB  
 COUNTRY: Italy  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 037 Drug Literature Index  
 016 Cancer  
 005 General Pathology and Pathological

Anatomy 048 Gastroenterology  
 LANGUAGE: English  
 SUMMARY LANGUAGE: Italian  
 AB The results of an electron microscopic study of the changes in hepatocytes induced by chronic intoxication with thioacetamide are reported. During the poisoning aspecific toxic changes are intermingled with progressive, preneoplastic ones. The main cell sub-populations identified are: large hepatocytes with smooth endoplasmic reticulum (SER) hypertrophy, with or without rough endoplasmic reticulum ( \*\*\*RER\*\*\* ) neoformation and glycogen storage, which is starvation resistant; smaller hepatocytes, where \*\*\*RER\*\*\* hypertrophy and ribosome accumulation are the prominent features. Such a pattern persists for months. After the withdrawal of the drug most of the cell changes disappear. However, during this time a simplification of the liver structure and cell \*\*\*composition\*\*\* takes place, allowing a sequence of cell events which seem relevant for establishment of neoplastic progression. The SER-hypertrophied cell appears first and gives rise, via several intermediate stages, to the \*\*\*RER\*\*\* -hypertrophied one, which is believed to play a key role as the ultimate precursor of cancer cells.

L4 ANSWER 55 OF 68 MEDLINE on STN  
 DUPLICATE 12  
 ACCESSION NUMBER: 80248084 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 7190547  
 TITLE: A morphometric study of vascular smooth muscle cells in

culture.

AUTHOR: Mazurkowitz J; Vaughan D W; Franzblau C

SOURCE: In vitro, (1980 Apr) 16 (4) 337-45.  
Journal code: 0063733. ISSN: 0073-5655.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198010

ENTRY DATE: Entered STN: 19900315  
Last Updated on STN: 19900315  
Entered Medline: 19801021

AB Cultured arterial smooth muscle cells derived from different times in culture, different passages, and different species were evaluated by a combination of transmission electron microscopy and morphometry. The morphometric studies focused on point counting and monitored the following cellular components: lysosomes, myofilaments, mitochondria, ribosomes, and rough endoplasmic reticulum (RER). Percent volume \*\*\*composition\*\*\* values for the organelles involved in protein synthesis, namely ribosomes and \*\*\*RER\*\*\*, show significant fluctuations with time. Consistent with these observations, the cells showed increasing myofilaments during the early weeks in culture, which subsequently decreased significantly.

The data also indicate that rabbit cells in culture may become synthetically quiescent with time and the distribution of cellular components is altered with each succeeding passage.

Cultured calf (bovine) cells exhibit similar activity periods compared to rabbit but show a significantly higher lysosomal and lower myofilament content than rabbit. Calf cells could not be maintained for longer than 21 days in the absence of ascorbate, whereas ascorbate affects the ultrastructure of rabbit cells less dramatically. Age, passage, and donor, among others, are important considerations for studying in vitro smooth muscle cells.

With proper morphologic and morphometric monitoring, these smooth muscle cell culture systems can be important tools in the study of aging or pathologic processes, or both.

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on STN

ACCESSION NUMBER: 80116106 EMBASE

DOCUMENT NUMBER: 1980116106

TITLE: The sources of acid hydrolases for photoreceptor membrane degradation in a grapsid crab.

AUTHOR: Blest A.D.; Stowe S.; Price D.G.

CORPORATE SOURCE: Dept. Neurobiol., RSBS, Australian Nat. Univ., Canberra, Australia

SOURCE: Cell and Tissue Research, (1980) 205/2 (229-244).

CODEN: CTSRCS

COUNTRY: Germany

DOCUMENT TYPE: Journal

FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
012 Ophthalmology

LANGUAGE: English

AB Dawn photoreceptor breakdown in the crab *Leptograpsus variegatus* is analysed at the ultrastructural level. Coated vesicles derived from microvilli are assembled as multivesicular bodies (mvbs), which degrade to multilamellar bodies (mlbs) and are lysed. Cytochemical markers for hydrolases were a fluoride-inhibited .beta.-glycerophosphatase and a fluoride-insensitive p-nitrophenyl phosphatase, with indistinguishable distributions when localised at pH 5.0. These enzymes are injected into the secondary lysosomes from two sources: (i) Immediately after dawn Golgi bodies are highly active, and differentiate a transubular network, from which tubules and vesicles detach, and can be seen fusing with mvbs and mlbs. (ii) Saccules derived from the rough endoplasmic reticulum (\*\*\*RER\*\*\* ) provide a second source and are most often seen in association with late mlbs. Both kinds of primary lysosome rarely give acid phosphatase-positive responses when free in the cytosol, but are seen to do so as they make contact with their secondary lysosomal targets.

Lipid droplets and lipofuscin bodies are interpreted as the residual products of breakdown. These results are discussed in relation to previous findings on photoreceptor membrane breakdown in a dinopid spider.

Attention is drawn to the implied diversity of organisation of lysosomal compartments in receptors which internalise membranes of similar \*\*\*compositions\*\*\*.

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on STN

ACCESSION NUMBER: 81012005 EMBASE

DOCUMENT NUMBER: 1981012005

TITLE: The pig yolk sac 1. Fine structure of the posthaematopoietic organ.

AUTHOR: Tiedemann K.; Minuth W.W.

CORPORATE SOURCE: 1 Anat. Inst., Univ. Heidelberg, D-6900 Heidelberg, Germany

SOURCE: Histochemistry, (1980) 68/2 (133-146).

CODEN: HCMYAL

COUNTRY: Germany

DOCUMENT TYPE: Journal

FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
021 Developmental Biology and Teratology  
005 General Pathology and Pathological Anatomy

025 Hematology

LANGUAGE: English

AB Yolk sacs from pig embryos ranging between 18 mm and 55 mm in length were investigated by scanning electron microscopy (SEM), transmission electron microscopy (TEM), and histochemistry. The organ was no longer present in embryos of 70 mm length. The endoderm proliferates in embryos of about 20 mm length with gland-like endodermal cell columns and finally becomes stratified, representing over 90% of the yolk sac mass. The endodermal cells show a high activity of oxidoreductases and lysosomal enzymes; their luminal surface bears few absorptive specializations. The mesothelium is inert, as judged from its surface ultrastructure, organelle \*\*\*composition\*\*\* and enzyme content. TEM reveals the endodermal cells to be polarized even in stratified areas. They resemble liver parenchymal cells with respect to their basal villi, which are exposed to capillaries with discontinuous or fenestrated endothelium. Giant mitochondria with crystalline inclusions in the mature endodermal cytoplasm are outnumbered by large stacks of the rough ER, which can amount to 60% of the cytoplasm. This conspicuous \*\*\*RER\*\*\* is suspected to be the production site of serum proteins which are discharged into the vascular bed. Close to the time of the organ's regression, an unusual storage of material in terminal buds of the ER was found. Intercellular canaliculi and the endocytic apparatus of the endoderm are thought to serve regression.

L4 ANSWER 58 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1979:494597 CAPLUS

DOCUMENT NUMBER: 91:94597

TITLE: Lead isotope studies of basalts from International

Phase of Ocean Drilling [Deep Sea Drilling Project]

Leg 49

AUTHOR(S): Mattinson, James M.

CORPORATE SOURCE: Dep. Geol. Sci., Univ. California, Santa Barbara, CA, USA

SOURCE: Initial Rep. Deep Sea Drill. Proj. (1979), Volume 49,

721-6. GPO: Washington, D. C.

CODEN: 22OIA4

DOCUMENT TYPE: Conference

LANGUAGE: English

AB The Pb isotope \*\*\*comps\*\*\* in basalts from the Leg 49 Reykjanes

Ridge ( \*\*\*RER\*\*\* ) transect are quite similar to those of Iceland and the northern \*\*\*RER\*\*\* suggesting that Icelandic anomaly along the

Mid-Atlantic ridge was already fully developed at 20, and possibly 28, Myr

ago. In contrast, basalts from Holes 410 and 410A contain very radiogenic

Pb typical of ocean-island volcanic rocks and may have been derived from a relatively undepleted off-ridge source that may reflect a major mantle

differentiation event at .apprx.1.8 Gyr B. P. New cores from the

French-American Mid-Ocean Undersea Study area confirm earlier indications

that the basalts of this region are isotopically heterogeneous.

Petrogenetic Pb-isotope mixing models are attempted for the various basalt types.

L4 ANSWER 59 OF 68 MEDLINE on STN

DUPLICATE 13

ACCESSION NUMBER: 79241198 MEDLINE

DOCUMENT NUMBER: PubMed ID: 224151

TITLE: Cytologic observations on axotomized feline Betz cells. II.

Quantitative ultrastructural findings.

AUTHOR: Dentinger M P; Barron K D; Kohberger R C; McLean B

SOURCE: Journal of neuropathology and experimental neurology, (1979 Sep) 38 (5) 551-64.

Journal code: 2985192R. ISSN: 0022-3069.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 197910

ENTRY DATE: Entered STN: 19900315

Last Updated on STN: 19900315

Entered Medline: 19791026

AB Quantitative electron microscopic examination was made of Betz cells of

two unoperated cats as well as cats subjected to left lateral funiculotomy

5, 10, 28 and 49 days before sacrifice. The percent cytoplasmic

\*\*\*composition\*\*\* of chromatolyzed, right-sided Betz cells contributed

by cisternal elements of \*\*\*RER\*\*\*, Golgi apparatus and dense bodies

and the percent perikaryal membrane apposed by subsurface cisterns were

unchanged from the normal despite marked qualitative alterations of the

cytoplasm. However, 49 days postoperatively mitochondrial numerical

density of axotomized, right-sided Betz cells was significantly less than

at 0, 10 and 28 days post funiculotomy. Importantly, normal-appearing

Betz cells ipsilateral to corticospinal tract section showed an increase

in mitochondrial numerical density 5 days

postoperatively. Operation did

not induce change in the % perikaryal coverage by axosomatic boutons.

Retraction of axosomatic boutons, though often reported for other neuronal

populations undergoing axon reaction, is not a necessary feature of the

axon reaction of feline Betz cells.

L4 ANSWER 60 OF 68 EMBASE COPYRIGHT 2005

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on STN  
 ACCESSION NUMBER: 79213610 EMBASE  
 DOCUMENT NUMBER: 1979213610  
 TITLE: Comparative study on peroxidatic activity in inflammatory cells on cutaneous and peritoneal implants.  
 AUTHOR: Van der Rhee H.J.; Van der Burgh-de Winter C.P.M.; Tijssen J.G.P.; Daems Th. W.  
 CORPORATE SOURCE: Dept. Dermatol., Univ. Hosp., Leiden, Netherlands  
 SOURCE: Cell and Tissue Research, (1979) 197/3 (397-412).  
 CODEN: CTSRCS  
 COUNTRY: Germany  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 025 Hematology  
 005 General Pathology and Pathological Anatomy  
 LANGUAGE: English  
 AB Inflammatory reactions were evoked by simultaneous implantation of pieces of Melinex plastic in the subcutaneous tissues of the dorsum and in the peritoneal cavity of rats. The cellular \*\*\*composition\*\*\* of the Melinex-adherent cells and their peroxidatic (PO) activity were investigated in relation to the duration of implantation. Several striking differences were found between the subcutaneous and peritoneal implants. On the 7th and 14th days, multinucleated giant cells were abundantly present on the subcutaneous implants, whereas they were relatively rare on the peritoneal implants. The subcutaneous implants bore no mast cells and only a few eosinophilic granulocytes, but both types of cell were observed frequently on the peritoneal implants. Macrophages and multinucleated giant cells on the subcutaneous implants show PO activity only in the granules or are PO negative. On the peritoneal implants three types of macrophages can be distinguished: exudate macrophages which have PO activity restricted to granules or are PO-negative; macrophages with PO activity in granules and both the rough endoplasmic reticulum ( \*\*\*RER\*\*\* ) and nuclear envelope; and resident macrophages with PO activity only in the \*\*\*RER\*\*\* and nuclear envelope. In addition, two types of multinucleated giant cells are found, one with and the other without PO activity in the \*\*\*RER\*\*\* and nuclear envelope. Multinucleated giant cells with PO activity in the \*\*\*RER\*\*\* and nuclear envelope as well as exudate macrophages with PO activity in the \*\*\*RER\*\*\* and nuclear envelope were mainly found 32 h and 3 days after implantation of the Melinex in the peritoneal cavity. These findings are discussed in the light of current knowledge of the PO activity in macrophages and

multinucleated giant cells. It is concluded that the appearance of PO activity in the \*\*\*RER\*\*\* and nuclear envelope of exudate macrophages and multinucleated giant cells is in all probability a transient phenomenon, and that there is no objective evidence to support the opinion that exudate macrophages with PO activity in the \*\*\*RER\*\*\* and nuclear envelope are transitional cells between exudate and resident macrophages.

L4 ANSWER 61 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 78307788 EMBASE  
 DOCUMENT NUMBER: 1978307788  
 TITLE: Mouse uterine glands during the delayed and induced implantation periods.  
 AUTHOR: Given R.L.; Enders A.C.  
 CORPORATE SOURCE: Dept. Hum. Anat., Sch. Med., Univ. California, Davis, Calif. 95616, United States  
 SOURCE: Anatomical Record, (1978) 190/2 (271-283).  
 CODEN: ANREAK  
 COUNTRY: United States  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
 010 Obstetrics and Gynecology  
 021 Developmental Biology and Teratology  
 LANGUAGE: English  
 AB Mouse uterine glandular epithelium during the lactationally delayed implantation period and after estradiol induction of implantation was investigated using light and electron microscopy. During the delayed implantation period the lumen of this simple tubular gland is narrowed. The glandular epithelial cells have a well developed Golgi complex lateral to the nucleus, and numerous cisternae of smooth and rough endoplasmic reticula ( \*\*\*RER\*\*\* ) and many electron lucent apical vesicles of sizes up to 0.2 .mu.m in diameter near the luminal border. The basal region contains lipid droplets and dispersed, irregular cisternae of \*\*\*RER\*\*\* . Twenty-four hours after the administration of 17 .beta.-estradiol the glandular lumina become dilated but the luminal content does not stain with azure B. Ultrastructurally the glandular cells are not remarkably different from those seen during the delay period. However, by 48 hours after estradiol administration the glandular lumina are not only dilated but filled with material which stains intensely with azure B and is ultrastructurally dense and homogeneous. The apical region of the glandular cells contains granules up to 0.4 .mu.m in diameter composed of

electron dense material similar in density to that seen in the glandular lumen. In addition, the Golgi complex has assumed a position apical to the nucleus, and the basal \*\*\*RER\*\*\* has an increased number and more orderly arrangement of cisternae. The changes seen in the uterine glands after the induction of implantation during the delay period are apparently indicative of increased secretory activity of the glandular epithelia. However, the contribution of the glands to the changes in uterine fluid \*\*\*composition\*\*\* has yet to be established.

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on STN  
 ACCESSION NUMBER: 78402271 EMBASE  
 DOCUMENT NUMBER: 1978402271  
 TITLE: The ultrastructure of Mycobacterium marinum granuloma in man.  
 AUTHOR: Marsch Ch. W.; Nuemberger F.; Stuetgen G.  
 CORPORATE SOURCE: Poliklin., Rudolf Virchow Krankenh., Freie Univ., D-1000 Berlin 65, Germany  
 SOURCE: Archives of Dermatological Research, (1978) 262/2 (205-217).  
 CODEN: ADMFAU  
 COUNTRY: Germany  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 013 Dermatology and Venereology  
 005 General Pathology and Pathological Anatomy  
 004 Microbiology  
 051 Leprosy and other Mycobacterial Diseases

LANGUAGE: English  
 SUMMARY LANGUAGE: German  
 AB 3 biopsies of 3-5 week-old nodular lesions in 2 patients with so-called swimming-pool (aquarium-) granuloma have been examined by electron microscopy. The cytohistological spectrum simultaneously comprises acute exudative as well as chronic proliferative phenomena. Epithelioid cells and collagen producing fibroblasts are already conspicuous in 3 week-old granuloma. According to the cytological \*\*\*composition\*\*\* the Mycobacterium marinum granuloma represents a high-turnover granuloma with immunogenic origin. It is comparable to mycobacterial diseases in the presence of well developed cell mediated immunity (Lupus vulgaris, tuberculoid leprosy). Degrading mycobacteria have been rarely detected in phagocytes and are compared with viable bacilli in macrophages of experimentally infected mice. Curved and annular parallel membranes ('worm-like structures') in the cytoplasm of transformed macrophages and

in fibroblasts presumably originate from the membranes of endoplasmic reticulum. Cord-like structures with transverse bands (periodicity 170-180 .ANG.) in the lumen of \*\*\*RER\*\*\* of some fibroblasts are interpreted as intracellularly aggregated collagen precursors.

L4 ANSWER 63 OF 68 MEDLINE on STN  
 DUPLICATE 14  
 ACCESSION NUMBER: 77165387 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 856833  
 TITLE: Redox constituents in milk fat globule membranes and rough endoplasmic reticulum from lactating mammary gland.

AUTHOR: Jarasch E D; Bruder G; Keenan T W; Franke W W  
 SOURCE: Journal of cell biology, (1977 Apr) 73 (1) 223-41.

Journal code: 0375356. ISSN: 0021-9525.

PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 197706  
 ENTRY DATE: Entered STN: 19900313  
 Last Updated on STN: 19900313  
 Entered Medline: 19770611

AB Milk fat globule membranes (MFGM) and rough endoplasmic reticulum (\*\*\*RER\*\*\*) membranes were isolated from milk and lactating mammary gland from the cow and were characterized by biochemical and electron microscope methods in terms of gross \*\*\*composition\*\*\* (proteins, phospholipids, neutral lipids, cholesterol, RNA, and DNA) and purity. Both fractions contained significant amounts of a b-type cytochrome with several properties similar to those of cytochrome b5 from liver, as well as a rotenone-insensitive NADH- and NADPH-cytochrome c reductase. The b-type cytochrome content in the apical plasma membrane-derived MFGM was of the same order of magnitude as it was in RER membranes. It was characterized by a high resistance to extraction by low- and high-salt concentrations and nonionic detergents. MFGM contained much more flavin and much higher activities of xanthine oxidase than the RER membranes. The same redox components were found in MFGM and mammary RER from women, rats, mice, and goats, but in absolute contents great differences between the species were noted. The cytochromes described here differed from liver cytochrome b5 in some spectral properties. The alpha-band of the reduced hepatic cytochrome b5 is asymmetric with a maximum at 555 nm that is split into two distinct peaks at low temperatures. The alpha-band of the b-type cytochromes from MFGM and mammary RER appears as one symmetrical peak at

about 560 nm that is not split at low temperatures. When treated with cyanide, MFGM and mammary microsomes showed difference spectra of a reduced b-type cytochrome. Under the same conditions, liver microsomes gave a completely different spectrum. These findings demonstrate the presence of a b-type cytochrome and associated redox enzymes in MFGM, i.e., a derivative of the apical cell surface membrane that is regularly used for envelopment of the milk fat globule during secretion.

L4 ANSWER 64 OF 68 CAPLUS COPYRIGHT 2005  
 ACS on STN DUPLICATE 15  
 ACCESSION NUMBER: 1977:436889 CAPLUS  
 DOCUMENT NUMBER: 87:36889  
 TITLE: The endoplasmic reticulum of the rat liver cell in experimental mechanical cholestasis.  
 Correlated biochemical and ultrastructural-morphometric studies on structure and enzyme composition  
 AUTHOR(S): Denk, H.; Eckerstorfer, R.; Rohr, H. P.  
 CORPORATE SOURCE: Sch. Med., Univ. Vienna, Vienna, Austria  
 SOURCE: Experimental and Molecular Pathology (1977), 26(2), 193-203  
 CODEN: EXMPA6; ISSN: 0014-4800  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB The structure and enzyme \*\*\*compn\*\*\* of the endoplasmic reticulum (ER) and smooth (SER) and rough ( \*\*\*RER\*\*\* ) microsomal subfractions derived from choledochus-ligated rat livers were studied. Mech. cholestasis resulted in an increase in ER per total liver but affected neither the protein/phospholipid nor the SER/RER ratios of the microsomal membranes. ER in cholestasis was poor in cytochrome P-450, the P-450 loss being more pronounced in the RER than in the SER. The decrease in cytochrome b5 was less pronounced. Microsomal UDP-glucuronyl transferase activity (per mg of microsomal protein) remained unchanged; total activity in the liver was elevated in proportion to the increase in total microsomal protein. Glucose 6-phosphatase activity was significantly decreased in SER and RER. Benzopyrene hydroxylase activity of liver microsomes in vitro was greatly impaired in cholestasis. In contrast to aminopyrine-N-demethylase, the benzopyrene hydroxylase activity did not correlate with P-450 loss or loss of P-450 reductase. Cholestasis had no effect on microsomal lipid peroxidn. and fatty acid desatn. in vitro. Selective ligation of the middle lobe of the liver was not accompanied by

an increase in the wt. of the obstructed lobe nor by inhibition of microsomal aminopyrine N-demethylation. However, an increase in microsomal protein as well as a decrease in the specific microsomal content in cytochromes P-450 and b5 and in glucose 6-phosphatase activity was obsd., similar to the situation seen in complete cholestasis.

L4 ANSWER 65 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 77170633 EMBASE  
 DOCUMENT NUMBER: 1977170633  
 TITLE: Morphometric comparison of the midgut epithelial cells in male and female Aedes aegypti L. (Insecta, Diptera).  
 AUTHOR: Rudin W.; Hecker H.  
 CORPORATE SOURCE: Swiss Trop. Inst., Basel, Switzerland  
 SOURCE: Tissue and Cell, (1976) 8/3 (459-470).  
 CODEN: TICEBI  
 DOCUMENT TYPE: Journal  
 FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology  
 LANGUAGE: English  
 AB Midgut epithelial cells of male and female Aedes aegypti, 3 days after emergence, were compared morphometrically. The results concerning the female, are in good agreement with those of a previous study (Hecker et al., 1974) demonstrating that morphometric investigation of midgut epithelia in A. aegypti can successfully be reproduced, and that the mosquito strain used did not show quantitative morphological changes due to laboratory rearing. In males, the cells of the anterior (A) and posterior part (P, stomach) of the midgut differ in their quantitative \*\*\*composition\*\*\*. Higher values are found for the females. and for the basal labyrinth in the A-part. On the other hand a higher volume density of the mitochondria is present in the P-part. No significant differences are found in the A-part between males and female. Significant differences, however, are present in the P-part. Distinctly more \*\*\*rer\*\*\* in the female stomach can be correlated with the synthesis of enzymes for blood digestion, which are absent in the male. In addition, the more complex functions of the female P-part are also reflected by higher values for the other organelles and membrane systems (e.g. mitochondria, basal labyrinth).

L4 ANSWER 66 OF 68 EMBASE COPYRIGHT 2005  
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 on STN  
 ACCESSION NUMBER: 75012572 EMBASE  
 DOCUMENT NUMBER: 1975012572

TITLE: Stereological analysis of the guinea pig pancreas. I.

Analytical model and quantitative description of nonstimulated pancreatic exocrine cells.

AUTHOR: Bolender R.P.

CORPORATE SOURCE: Dept. Anat., Univ. Berne, Switzerland

SOURCE: Journal of Cell Biology, (1974) 61/2 (269-287).

CODEN: JCLBA3

DOCUMENT TYPE: Journal

FILE SEGMENT: 001 Anatomy, Anthropology, Embryology and Histology

LANGUAGE: English

AB A stereological model which provides detailed quantitative information on

the structure of the fasted, nonstimulated gland has been developed for

the guinea pig pancreas. The model consists of morphologically defined

space and membrane compartments which were used to describe the general

\*\*\*composition\*\*\* of the tissue and the specific components of exocrine

cells. The results are presented, where appropriate, relative to a cubic

centimeter of pancreas, a cubic centimeter of exocrine cell cytoplasm, and

to the volume of an average exocrine cell. The exocrine cells, accounting

for 82% of the pancreas volume, consisted of 54% cytoplasmic matrix, 22%

rough surfaced endoplasmic reticulum ( \*\*\*RER\*\*\* ), 8.3% nuclei, 8.1%

mitochondria, 6.4% zymogen granules, and 0.7% condensing vacuoles. Their

total membrane surface area was distributed as follows: 60% \*\*\*RER\*\*\* ,

21% mitochondria, 9.9% Golgi apparatus, 4.8% plasma membranes, 2.6%

zymogen granules, 1.8% plasma membrane vesicles, and 0.4% condensing

vacuoles. The application of this model to the study of membrane movements

associated with the secretory process is discussed within the framework of

an analytical approach.

L4 ANSWER 67 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1970:474917 CAPLUS

DOCUMENT NUMBER: 73:74917

TITLE: Ultrastructural and biochemical characteristics of

endoplasmic reticulum fractions of the Morris 7800 and

Reuber H-35 hepatomas

AUTHOR(S): Moyer, Geoffrey H.; Murray, Robert Kincaid;

Khairallah, Larnia H.; Suss, Rudolf; Pitot,

Henry C.

CORPORATE SOURCE: McArdle Lab. for Cancer Res., Univ. of Wisconsin,

Madison, WI, USA

SOURCE: Laboratory Investigation (1970), 23(1), 108-18

CODEN: LAINAW; ISSN: 0023-6837

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A correlative ultrastructural and biochem. study of endoplasmic reticulum

(ER) fractions from the postmitochondrial supernatant fluids of the Morris

7800 and Reuber H-35 hepatomas was performed.

Preliminary electron

microscopy of the hepatomas confirmed the results of previous studies on

these tumors. The only unusual feature was the presence of large

cytoplasmic membrane whorls in the 7800 hepatoma.

Smooth (SER) and rough

(RER) ER fractions and a free ribosomal fraction were sepd. for

comparative purposes. In general, the fractions from the hepatomas

appeared ultrastructurally similar to those of normal liver, except that

the cytoplasmic membrane whorls present in the 7800 hepatoma were noted to

sediment in the RER fraction. Discrete globular subunits of the ER were

evident in these membrane whorls. The yield of total microsomes and SER

and RER fractions from hepatomas was reduced when compared with normal

liver. RNA/protein ratios of the hepatoma fractions were comparable to

those of normal liver and the ratio of free/membrane-bound RNA in the

hepatomas was markedly increased, mainly as a result of a decrease in

membrane-bound RNA. Thin layer chromatograms of phospholipids in the

hepatoma membrane fractions appeared similar to those of the liver

fractions, and liver tissue-specific antigen was present in the membrane

fractions of both hepatomas. Glucose-6-phosphatase (EC 3.1.3.9)

activities were reduced in the tumor membrane fractions, whereas esterase

(EC 3.1.1.1) activities were normal in the 7800 fractions but reduced in

those of the H-35. Mg-ATPase (EC 3.6.1.4) activity was markedly elevated

in the microsome + SER fractions of both tumors. Aside from this latter

finding the SER + \*\*\*RER\*\*\* of each tumor exhibited a similarity of

\*\*\*comprn\*\*\* , emphasizing the generally identical nature of the membrane

components of SER .+-. \*\*\*RER\*\*\* .

L4 ANSWER 68 OF 68 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1963:53763 CAPLUS

DOCUMENT NUMBER: 58:53763

ORIGINAL REFERENCE NO.: 58:9240a-c

TITLE: Fractionation of copolymers. Effect of composition on

phase relations

AUTHOR(S): Topchiev, A. V.; Litmanovich, A. D.; Shtern, V. Ya.

CORPORATE SOURCE: Inst. Petrochem. Synthesis, Moscow

SOURCE: Doklady Akademii Nauk SSSR (1962), 147, 1389-91

CODEN: DANKAS; ISSN: 0002-3264

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable  
 AB Equations are derived that describe fractional pptn. of inhomogeneous copolymers. The equations are derived on the basis of the distribution of copolymer components between pptd. and dissolved phases insofar as this is affected by differences in \*\*\*compn\*\*\* of such copolymer mols. and the differences in chem. potentials produced thereby. The fraction (f) of the material remaining in dissolved phase is given by  $f = 1/(1 + \frac{R}{K} \cdot \frac{1}{\alpha})$ , where R is the ratio between the concd. and the dil. phases in equil.,  $\alpha$  is the parameter of interaction between copolymer links as expressed in terms of the chem. \*\*\*compn\*\*\* of the polymer links in mole fractions, r is the degree of polymerization, and  $\Delta$  is a function of the vol. fraction of a given component of the copolymer. Thermodynamic data on transtactic polybutadiene. G. Natta and G. Moraglio. Rubber Plastics Age 44, 42-3(1963). Properties of transtactic polybutadiene are reviewed. Enthalpy of fusion and of interaction with diluents for transtactic polybutadiene of modification II are as follows: for Ph2CO  $\Delta H_u = 1170$ ,  $x_1 T_m = 245$ ; for  $\alpha$ -chloronaphthalene  $\Delta H_u = 1060$ ,  $x_1 T_m = 105$ . The parameters for modification I are estd. by calcn. to be  $\Delta H_u I = 2400$ ,  $T_m = 1000$ , which is about double that of modification II. The entropy of fusion for modification II,  $\Delta S_u = 2.7$  e.u./mole. This low value is explained by the partial disorder of that modification. The low heat of fusion of modification II helps to explain the considerable m.p. decrease of samples having steric impurities in the polymer chain. This property allows one to obtain homo- and copolymers of butadiene that are cryst., but whose m.ps. are lowered by 100.degree..

=> s (ser-met-arg-glu-arg or arg-glu-arg)  
 L5 110 (SER-MET-ARG-GLU-ARG OR ARG-GLU-ARG)

=> 110 (s) Composition?  
 L10 IS NOT A RECOGNIZED COMMAND  
 The previous command name entered was not recognized by the system.  
 For a list of commands available to you in the current file, enter "HELP COMMANDS" at an arrow prompt (=>).

=> s 110 (s) composition  
 L10 NOT FOUND  
 The L-number entered could not be found. To see the definition of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

=> s 15 (s) composition?  
 L6 6 L5 (S) COMPOSITION?

=> duplicate remove 16  
 DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, BIOSIS'  
 KEEP DUPLICATES FROM MORE THAN ONE FILE?  
 Y/(N):n  
 PROCESSING COMPLETED FOR L6  
 L7 4 DUPLICATE REMOVE L6 (2 DUPLICATES REMOVED)

=> d 17 1- ibib,abs  
 YOU HAVE REQUESTED DATA FROM 4 ANSWERS -  
 CONTINUE? Y/(N):y

=> duplicate remove 15  
 DUPLICATE PREFERENCE IS 'MEDLINE, CAPLUS, EMBASE, BIOTECHNO, BIOSIS'  
 KEEP DUPLICATES FROM MORE THAN ONE FILE?  
 Y/(N):n  
 PROCESSING COMPLETED FOR L5  
 L10 42 DUPLICATE REMOVE L5 (68 DUPLICATES REMOVED)

=> d 110 1- ibib,abs  
 YOU HAVE REQUESTED DATA FROM 42 ANSWERS -  
 CONTINUE? Y/(N):y

L10 ANSWER 1 OF 42 MEDLINE on STN  
 DUPLICATE 1  
 ACCESSION NUMBER: 2004183149 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 15078567  
 TITLE: The peptide sequence \*\*\*Arg\*\*\* -  
 \*\*\*Glu\*\*\* -  
 \*\*\*Arg\*\*\*, present in the amyloid precursor protein,  
 protects against memory loss caused by A beta and acts as a cognitive enhancer.  
 AUTHOR: Mileusnic R; Lancashire C L; Rose S P R  
 CORPORATE SOURCE: Brain and Behaviour Research Group, The Open University,  
 Milton Keynes, MK7 6AA, UK..  
 r.mileusnic@open.ac.uk  
 SOURCE: European journal of neuroscience, (2004 Apr) 19 (7) 1933-8.  
 Journal code: 8918110. ISSN: 0953-816X.  
 PUB. COUNTRY: France  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200405  
 ENTRY DATE: Entered STN: 20040414  
 Last Updated on STN: 20040525  
 Entered Medline: 20040524  
 AB Amino acid sequences containing the palindromic tripeptide RER, matching amino acids 328-330 of the amyloid precursor protein APP, when injected intracerebrally prior to or just after training, protect against memory loss induced by amyloid-beta (A beta) in a one-trial passive avoidance task in the young chick. RER also acts as a cognitive enhancer, strengthening memory for a weak version of the task. N-terminal acylation

of RER protects it against rapid degradation, and AcRER is effective in restoring memory if administered peripherally. Biotinylated RER binds to chick neuronal perikarya in an APP-displaceable manner via 66 and approximately 110 kDa neuronal cell membrane proteins. We suggest that RER binding is likely to exert effects on memory retention via receptor-mediated events that include activation of second messenger pathways. These findings suggest that RER and its derivatives may offer a novel approach to enhancing the neuroprotective effects of APP and alleviating the effects of memory loss in the early stages of Alzheimer's disease.

L10 ANSWER 2 OF 42 MEDLINE on STN  
 DUPLICATE 2  
 ACCESSION NUMBER: 2003164395 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 12681432  
 TITLE: Agonist properties of putative small-molecule somatostatin sst2 receptor-selective antagonists.  
 AUTHOR: Nunn Caroline; Langenegger Daniel; Hurth Konstanze; Schmidt Kerstin; Fehlmann Dominique; Hoyer Daniel  
 CORPORATE SOURCE: Nervous System Research, Novartis Pharma AG, CH-4002, Basel, Switzerland.  
 SOURCE: European journal of pharmacology, (2003 Apr 4) 465 (3) 211-8.  
 Journal code: 1254354. ISSN: 0014-2999.  
 PUB. COUNTRY: Netherlands  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200402  
 ENTRY DATE: Entered STN: 20030409  
 Last Updated on STN: 20040211  
 Entered Medline: 20040210

AB The availability of antagonist ligands for somatostatin receptors is very limited, with those that are available often displaying agonist properties or limited receptor subtype selectivity. Hay et al. [Bioorg. Med. Chem. Lett. 11 (2001) 2731] recently described the development of small-molecule somatostatin receptor subtype 2 (sst(2)) selective compounds. This study investigates the binding affinity and functional characteristics of two of those antagonists (2 and 3) and the agonist compound, from which they were derived (1). In radioligand binding studies using the agonist radioligands [125I][Tyr(1)]SRIF-14 (Ala-Gly-c[Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-(125I-Tyr)-Thr-Ser-Cys]-OH), [125I]LTT-SRIF-28 ([Leu(8),DTrp(22),125I-Tyr(25)]SRIF-28; Ser-Ala-Asn-Ser-Asn-Pro-Ala-Leu-Ala-Pro-\*\*\*Arg\*\*\* -\*\*\*Glu\*\*\* -\*\*\*Arg\*\*\* -Lys-Ala-Gly-c[Cys-Lys-Asn-Phe-Phe-DTrp-Lys-Thr-

(125I-Tyr)-Thr-Ser-Cys]-OH), [125I]CGP 23996 (c[Lys-Asu-Phe-Phe-Trp-Lys-Thr-(125I-Tyr)-Thr-Ser]), [125I][Tyr(3)]octreotide (DPhe-c[Cys-(125I-Tyr)-DTrp-Lys-Thr-Cys]-Thr-OH) and [125I][Tyr(10)]cortistatin-14 (Pro-c[Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-(125I-Tyr)-Ser-Ser-Cys]-Lys) at human recombinant somatostatin receptors expressed in Chinese hamster lung fibroblast (CCL39) cells and native rat cortex, the compounds bound with high affinity (pK(d) 6.8-9.7) and selectivity to human sst(2) receptors. Some affinity was also observed for sst(5) labelled by [125I][Tyr(3)]octreotide and [125I]CGP 23996. In functional studies at human sst(2) receptors expressed in Chinese hamster ovary (CHO) cells, both the agonist 1 and the two putative antagonists 2 and 3 concentration dependently inhibited forskolin-stimulated adenylate cyclase and stimulated luciferase reporter gene expression, with similar efficacy to the natural ligand somatotropin release inhibiting factor (SRIF)-14. Compound 1 had similar potency to SRIF-14, which was in the nanomolar range, whereas 2 and 3 were 10-100-fold less potent. The intrinsic activity of 2 and 3 was too high to allow antagonist studies to be carried out. In conclusion, in contrast to previous findings, all three compounds are potent agonists at recombinant human sst(2) receptors.

L10 ANSWER 3 OF 42 CAPLUS COPYRIGHT 2005  
 ACS on STN  
 ACCESSION NUMBER: 2002:814182 CAPLUS  
 DOCUMENT NUMBER: 137:329414  
 TITLE: Polypeptides for treatment of Alzheimer's disease or use as cognition enhancers  
 INVENTOR(S): Mileusnic, Radmila; Rose, Steven  
 Peter Russell  
 PATENT ASSIGNEE(S): The Open University, UK  
 SOURCE: PCT Int. Appl., 85 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
WO 2002083729	A2	20021024	WO 2002-GB1769 20020417
WO 2002083729	A3	20030731	
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,			

UA, UG, US, UZ, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ,  
 UG, ZM, ZW, AM, AZ, BY,  
 KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE,  
 DK, ES, FI, FR, GB,  
 GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF,  
 CG, CI, CM, GA,  
 GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 US 2003166529 A1 20030904 US 2001-998491  
 20011130  
 CA 2444530 AA 20021024 CA 2002-2444530  
 20020417  
 EP 1381627 A2 20040121 EP 2002-720228  
 20020417  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU,  
 NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 GB 2391548 A1 20040211 GB 2003-26855  
 20020417  
 US 2004106552 A1 20040603 US 2003-475281  
 20031016  
 PRIORITY APPLN. INFO.: GB 2001-9558  
 A 20010418  
 GB 2001-20084 A 20010817  
 US 2001-998491 A1  
 20011130  
 GB 2002-7387 A 20020328  
 WO 2002-GB1769 W  
 20020417  
 OTHER SOURCE(S): MARPAT 137:329414  
 AB The invention provides a compd. having formula X1-  
 Arg-Xaa-Arg-X2 in which  
 X1 and X2 are up to 30 amino acid residues and Xaa is an  
 amino acid  
 residue. A preferred compd. is the tripeptide \*\*\*Arg\*\*\*  
 - \*\*\*Glu\*\*\*  
 - \*\*\*Arg\*\*\* which corresponds to amino acid residues  
 328 to 330 of  
 human amyloid precursor protein. The invention further  
 provides a deriv.  
 of a polypeptide having the formula: X1-Arg-Xaa-Arg-X2  
 wherein X1 and X2,  
 which may be the same or different, each represents from  
 zero to 30  
 natural or synthetic amino acid residues or derivs. thereof  
 and Xaa  
 represents a natural or synthetic amino acid residue or  
 deriv. thereof, at  
 least one functional group of at least one said amino acid  
 residue or  
 deriv. thereof being protected by a protective group. The  
 compds. of the  
 invention are believed to be useful in the treatment of  
 Alzheimer's  
 disease and as cognitive enhancers.  
 L10 ANSWER 4 OF 42 BIOSIS COPYRIGHT (c) 2005  
 The Thomson Corporation. on  
 STN  
 ACCESSION NUMBER: 2001:458548 BIOSIS  
 DOCUMENT NUMBER: PREV200100458548  
 TITLE: Urocortin peptides, nucleic acid encoding  
 same methods for  
 using same.  
 AUTHOR(S): Vale, Wylie W., Jr. [Inventor, Reprint  
 author]; Vaughan,  
 Joan [Inventor]; Donaldson, Cynthia J.  
 [Inventor]; Lewis,  
 Kathy A. [Inventor]; Sawchenko, Paul  
 [Inventor]; Rivier,

Jean E. F. [Inventor]; Perrin, Marilyn H.  
 [Inventor]  
 CORPORATE SOURCE: La Jolla, CA, USA  
 ASSIGNEE: The Salk Institute for Biological  
 Studies, San  
 Diego, CA, USA  
 PATENT INFORMATION: US 6214797 April 10, 2001  
 SOURCE: Official Gazette of the United States  
 Patent and Trademark  
 Office Patents, (Apr. 10, 2001) Vol. 1245, No. 2.  
 e-file.  
 CODEN: OGUPE7. ISSN: 0098-1133.  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 26 Sep 2001  
 Last Updated on STN: 22 Feb 2002  
 AB Urocortin (Ucn) is a native mammalian peptide  
 generally related to  
 Urotensin I and Corticotropin Releasing Factor (CRF).  
 Human Ucn has the  
 formula: Asp-Asn-Pro-Ser-Leu-Ser-Ile-Asp-Leu-Thr-Phe-  
 His-Leu-Leu-Arg-Thr-  
 Leu-Leu-Glu-Leu-Ala-Arg-Thr-Gln-Ser-Gln-  
 \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* -  
 \*\*\*Arg\*\*\* -Ala-Glu-Gln-Asn-Arg-Ile-Ile-Phe-A sp-  
 Ser-Val-NH2 (SEQ ID  
 NO:15). Rat-derived Ucn is identical but for 2  
 substitutions, Asp2 for  
 Asn2 and Pro4 for Ser4. Ucn or analogs thereof or  
 pharmaceutically  
 acceptable salts can be administered to humans and other  
 mammals to  
 achieve substantial elevation of ACTH, beta-endorphin,  
 beta-lipotropin,  
 other products of the pro-opiomelanocortin gene and  
 corticosterone. They  
 can also be used to lower blood pressure over an extended  
 period of time,  
 as stimulants to elevate mood and to improve memory and  
 learning  
 performance, as well as diagnostically. Shortened  
 fragments may be  
 administered to release endogenous CRF and/or Ucn in  
 the brain and  
 peripherally. Ucn antagonists can be used to block the  
 action of Ucn  
 and/or CRF, as can antibodies to Ucn. Labelled Ucn  
 agonists and  
 antagonists can be used in drug screening assays along  
 with CRF receptors;  
 they may also be used diagnostically along with Ucn  
 antibodies.  
 L10 ANSWER 5 OF 42 MEDLINE on STN  
 DUPLICATE 3  
 ACCESSION NUMBER: 2001277431 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 11369854  
 TITLE: Energy landscape of a peptide consisting of  
 alpha-helix,  
 3(10)-helix, beta-turn, beta-hairpin, and other  
 disordered  
 conformations.  
 AUTHOR: Higo J; Ito N; Kuroda M; Ono S;  
 Nakajima N; Nakamura H  
 CORPORATE SOURCE: Biomolecular Engineering  
 Research Institute (BERI), Suita,  
 Osaka 565-0874, Japan.. higo@ls.toyaku.ac.jp  
 SOURCE: Protein science : a publication of the  
 Protein Society,  
 (2001 Jun) 10 (6) 1160-71.

Journal code: 9211750. ISSN: 0961-8368.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200110

ENTRY DATE: Entered STN: 20011022

Last Updated on STN: 20011022

Entered Medline: 20011018

AB The energy landscape of a peptide [Ace-Lys-Gln-Cys-

\*\*\*Arg\*\*\* -

\*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Ala-Nme] in explicit water was studied with a

multicanonical molecular dynamics simulation, and the AMBER parm96 force

field was used for the energy calculation. The peptide was taken from the

recognition helix of the DNA-binding protein, c-MYB: A rugged energy

landscape was obtained, in which the random-coil conformations were

dominant at room temperature. The CD spectra of the synthesized peptide

revealed that it is in the random state at room temperature.

However, the

300 K canonical ensemble, Q(300K), contained alpha-helix, 3(10)-helix,

beta-turn, and beta-hairpin structures with small but notable

probabilities of existence. The complete alpha-helix, imperfect

alpha-helix, and random-coil conformations were separated from one another

in the conformational space. This means that the peptide must overcome

energy barriers to form the alpha-helix. The overcoming process may

correspond to the hydrogen-bond rearrangements from peptide-water to

peptide-peptide interactions. The beta-turn, imperfect 3(10)-helix, and

beta-hairpin structures, among which there are no energy barriers at 300

K, were embedded in the ensemble of the random-coil conformations. Two

types of beta-hairpin with different beta-turn regions were observed in

Q(300K). The two beta-hairpin structures may have different mechanisms

for the beta-hairpin formation. The current study proposes a scheme that

the random state of this peptide consists of both ordered and disordered

conformations. In contrast, the energy landscape obtained from the parm94

force field was funnel like, in which the peptide formed the helical

conformation at room temperature and random coil at high temperature.

L10 ANSWER 6 OF 42 CAPLUS COPYRIGHT 2005

ACS on STN

ACCESSION NUMBER: 2001:876273 CAPLUS

DOCUMENT NUMBER: 136:195811

TITLE: Energy topography and folding mechanism of small

peptides obtained by multicanonical MD method

AUTHOR(S): Higo, Junichi; Ito, Akisato; Ono, Satoshi; Nakajima,

Shinsuke; Kuroda, Masataka; Nakamura,

Haruki

CORPORATE SOURCE: Department of Life Science, Tokyo Department of

Pharmacy, Japan

SOURCE: Bussei Kenkyu (2001), 76(6), 832-834

CODEN: BUSKB2; ISSN: 0525-2997

PUBLISHER: Bussei Kenkyu Kankokai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

AB A discussion is given of the authors' research on energy topog. and

folding mechanism of small peptides, esp. [Ace-Lys-Gln-Cys- \*\*\*Arg\*\*\* -

\*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Ala-Nme], obtained by multicanonical MD method.

L10 ANSWER 7 OF 42 MEDLINE on STN

DUPLICATE 4

ACCESSION NUMBER: 2001385216 MEDLINE

DOCUMENT NUMBER: PubMed ID: 11439102

TITLE: Involvement of the chicken liver 6-phosphofructo-2-

kinase/fructose-2,6-bisphosphatase sequence

His444-

.\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* in modulation of

the bisphosphatase activity by its kinase domain.

AUTHOR: Zhu Z; Ling S; Yang Q H; Li L

CORPORATE SOURCE: State Key Laboratory of Molecular Biology, Institute of

Biochemistry and Cell Biology, Shanghai Institutes for

Biological Sciences, Chinese Academy of Sciences, Shanghai

200031, China.

SOURCE: Biochemical journal, (2001 Jul 15) 357 (Pt 2) 513-20.

Journal code: 2984726R. ISSN: 0264-6021.

PUB. COUNTRY: England: United Kingdom

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 200108

ENTRY DATE: Entered STN: 20010827

Last Updated on STN: 20010827

Entered Medline: 20010823

AB The bisphosphatase activity of the hepatic bifunctional enzyme

6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase is repressed by its

kinase domain, and regulated by cAMP-dependent protein kinase

(PKA)-catalysed phosphorylation. In the present study, the mechanism by

which the bisphosphatase activity is repressed by the kinase domain and

regulated by phosphorylation was investigated. We found that truncation

of the C-terminus of the enzyme by 25, but not 20, amino acids

dramatically enhanced the catalytic rate of the bisphosphatase, abrogated

the inhibition by the kinase domain, and eliminated the effect of

PKA-mediated phosphorylation on activity. In addition, mutation of



His444- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* to Ala-Ala-Glu-Ala had similar effects as the deletion. Moreover, the mutations also significantly affected the phosphorylation-mediated regulation of the kinase activity of the enzyme. Furthermore, the mutations altered the pH-dependence of the bisphosphatase, and the mutant bisphosphatases were more sensitive to modification by diethyl pyrocarbonate and guanidine-induced inactivation than the wild-type enzyme. Taken together, these results demonstrate that the sequence His444-\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* plays a critical role in repression of the bisphosphatase activity by both the N-terminal kinase domain and the C-terminal tail itself. These results also explain the activation of the bisphosphatase activity by PKA-catalysed phosphorylation, by suggesting that phosphorylation may relieve the inhibitory effect of the kinase domain that is mediated by the three basic residues in this sequence.

L10 ANSWER 8 OF 42 MEDLINE on STN  
 DUPLICATE 5  
 ACCESSION NUMBER: 2002012591 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 11391775  
 TITLE: Cooperative helix stabilization by complex Arg-Glu salt bridges.

AUTHOR: Olson C A; Spek E J; Shi Z; Vologodskii A; Kallenbach N R  
 CORPORATE SOURCE: Department of Chemistry, New York University, New York, New York 10003, USA.

SOURCE: Proteins, (2001 Aug 1) 44 (2) 123-32.  
 Journal code: 8700181. ISSN: 0887-3585.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 200112  
 ENTRY DATE: Entered STN: 20020121  
 Last Updated on STN: 20020121  
 Entered Medline: 20011204

AB Among the interactions that stabilize the native state of proteins, the role of electrostatic interactions has been difficult to quantify precisely. Surface salt bridges or ion pairs between acidic and basic side chains have only a modest stabilizing effect on the stability of helical peptides or proteins: estimates are roughly 0.5 kcal/mol or less. On the other hand, theoretical arguments and the occurrence of salt bridge networks in thermophilic proteins suggest that multiple salt bridges may exert a stronger stabilizing effect. We show here that triads of charged side chains, \*\*\*Arg\*\*\* (+)- \*\*\*Glu\*\*\* (-)- \*\*\*Arg\*\*\* (+) spaced at

i,i+4 or i,i+3 intervals in a helical peptide stabilize alpha helix by more than the additive contribution of two single salt bridges. The free energy of the triad is more than 1 kcal/mol in excess of the sum of the individual pairs, measured in low salt concentration (10 mM). The effect of spacing the three groups is severe; placing the charges at i,i+4 or i,i+3 sites has a strong effect on stability relative to single bridges; other combinations are weaker. A conservative calculation suggests that interactions of this kind between salt bridges can account for much of the stabilization of certain thermophilic proteins.  
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L10 ANSWER 9 OF 42 CAPLUS COPYRIGHT 2005  
 ACS on STN  
 ACCESSION NUMBER: 2001:290638 CAPLUS  
 DOCUMENT NUMBER: 134:277172  
 TITLE: Mammalian cDNAs encoding SNORF orphan receptors  
 INVENTOR(S): Borowsky, Beth; Pathirana, Marie  
 Sudam; Ogozalek,  
 Kristine L.; Lichtblau, Harvey; Bonini, James A.

PATENT ASSIGNEE(S): Synaptic Pharmaceutical Corporation, USA  
 SOURCE: PCT Int. Appl., 138 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION
WO 2000060081	A1	20001012	WO 2000-0406
US9244			
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM		
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG		
US 6117990	A	20000912	US 1999-286805
19990406			
CA 2332574	AA	20001012	CA 2000-2332574
20000406			
EP 1084238	A1	20010321	EP 2000-921829
20000406			
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO		

PRIORITY APPLN. INFO.: US 1999-286805  
A 19990406

WO 2000-US9244 W

20000406

AB This invention provides a recombinant nucleic acid comprising a nucleic acid a G protein-coupled receptor, wherein the G protein-coupled receptor comprises contiguous amino acids having the sequence Lys-Xaa-Arg-Val-Ala-Xaa-\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* or Phe-Thr-Xaa-Ser-Val-Ser-Gly. Human receptors designated SNORF1, SNORF82, SNORF84; rat receptors designated SNORF1, SNORF76, SNORF77, SNORF78, SNORF83, SNORF85, SNORF86, SNORF88, SNORF89; and a mouse SNORF1 receptor are provided.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 10 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 6

ACCESSION NUMBER: 1999:275215 CAPLUS  
DOCUMENT NUMBER: 131:84479  
TITLE: Electrostatic interactions between side chains of

.alpha.-amino acids: conductance studies

AUTHOR(S): Rajeswari, M. R.  
CORPORATE SOURCE: Department of Biochemistry, All India Institute of

Medical Sciences, New Delhi, 110029, India  
SOURCE: Journal of Biochemistry, Molecular Biology and

Biophysics (1999), 2(4), 287-292  
CODEN: JBMBF6; ISSN: 1025-8140

PUBLISHER: Harwood Academic Publishers  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB The equivalent conductance .lambda., of six .alpha.-amino acids glycine (Gly), alanine (Ala), aspartic acid (Asp), glutamic acid (Glu), lysine (Lys) and arginine (Arg) and the .lambda.0 (expt.) of 1: 1 (mole ratio) mixts. of .alpha.-amino acids, (1) Asp: Arg; (2) Asp: Lys; (3) Glu: Arg; (4) Glu: Lys; (5) Arg: Gly; (6) Glu: Gly and (7) Arg: Ala were measured in water at 25.degree.. The conductance of the above mixts., .lambda. (calc.), was also calcd. using the conductance of the fully charged species (with three groups, .alpha.-NH3+, .alpha.-COO- and guanidinium/.epsilonpsilon.-NH3+) of Arg and Lys and of triply charged species (with .alpha.-NH3+, .alpha.-COO- and .beta./gamma.-COO-) of Asp and Glu which were detd. using the individual salt data of amino acids. Neg. deviations were obsd. only in systems (1)-(4); the differences, .DELTA..lambda.0 (expt.-calc.) are attributed to "ion-pairs" between the side chains of the .alpha.-amino acids. The order of the strength of the

"specific" interaction between the charged side chains of amino acids in mixts. studied is as follows: Asp: \*\*\*Arg\*\*\* > \*\*\*Glu\*\*\* :

\*\*\*Arg\*\*\* > Asp: Lys > Glu: Lys.

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 11 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1997:184608 CAPLUS  
DOCUMENT NUMBER: 126:166860  
TITLE: Preparation and formulation of Urocortin peptides as

pharmaceuticals

INVENTOR(S): Vale, Wylie W., Jr.; Vaughan, Joan; Donaldson, Cynthia  
J.; Lewis, Kathy A.; Sawchenko, Paul; Rivier, Jean E.

F.; Perrin, Marilyn H.

PATENT ASSIGNEE(S): Salk Institute for Biological Studies, USA

SOURCE: PCT Int. Appl., 90 pp.  
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION
NO.	DATE		
WO 9700063	A2	19970103	WO 1996-US10240
19960612			
WO 9700063	A3	19970123	
W:	AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG		
RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA		
CA 2223792	AA	19970103	CA 1996-2223792
19960612			
AU 9662777	A1	19970115	AU 1996-62777
19960612			
EP 845035	A2	19980603	EP 1996-921584
19960612			
R:	CH, DE, ES, FR, GB, IT, LI		
JP 2002504802	T2	20020212	JP 1997-503312
19960612			
US 6214797	B1	20010410	US 1997-981189
19971210			
US 2003032587	A1	20030213	US 2001-818009
20010326			
PRIORITY APPLN. INFO.:			US 1995-490314
A 19950613			
		US 1995-2223P	P 19950811
		US 1995-28144P	P 19950613
		WO 1996-US10240	W
19960612			
		US 1997-981189	A3
19971210			
OTHER SOURCE(S):		MARPAT 126:166860	

AB Urocortin (Ucn) is a native mammalian peptide generally related to Urotensin I and ACTH Releasing Factor (CRF). Human Ucn has the formula:  
 Asp-Asn-Pro-Ser-Leu-Ser-Ile-Asp-Leu-Thr-Phe-His-Leu-Arg-Thr-Leu-Glu-Leu-  
 Ala-Arg-Thr-Gln-Ser-Gln- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\*  
 -Ala-Glu-Gln-Asn-Arg-Ile-Phe-Asp-Ser-Val-NH<sub>2</sub>. Rat-derived Ucn is identical but for 2 substitutions; asp2 for Asn2 and Pro4 for Ser4. Ucn or analogs thereof or pharmaceutically acceptable salts can be administered to humans and other mammals to achieve substantial elevation of ACTH, .beta.-endorphin, .beta.-lipotropin, other products of the pro-opiomelanocortin gene and corticosterone. They can also be used to lower blood pressure over an extended period of time, as stimulants to elevate mood and to improve memory and learning performance, as well as diagnostically. Shortened fragments may be administered to release endogenous CRF and/or Ucn in the brain and peripherally. Ucn antagonists can be used to block the action of Ucn and/or CRF, as can antibodies to Ucn. Labeled Ucn agonists and antagonists can be used in drug screening assays along with CRF receptors; they may also be used diagnostically along with Ucn antibodies.

L10 ANSWER 12 OF 42 MEDLINE on STN  
 DUPLICATE 7  
 ACCESSION NUMBER: 97433287 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 9288927  
 TITLE: The bioactive conformation of neuropeptide Y analogues at the human Y2-receptor.  
 AUTHOR: Rist B; Ingenhoven N; Scapozza L; Schnorrenberg G; Gaida W; Wieland H A; Beck-Sickinger A G  
 CORPORATE SOURCE: Department of Pharmacy, ETH Zurich, Switzerland.  
 SOURCE: European journal of biochemistry / FEBS, (1997 Aug 1) 247 (3) 1019-28.  
 Journal code: 0107600. ISSN: 0014-2956.  
 PUB. COUNTRY: GERMANY: Germany, Federal Republic of  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199710  
 ENTRY DATE: Entered STN: 19971013  
 Last Updated on STN: 19971013  
 Entered Medline: 19971002

AB Several attempts to investigate the bioactive conformation of neuropeptide Y have been made so far. As cyclic peptides are much more rigid than linear ones, we decided to synthesise cyclic analogues of the C-terminal dodecapeptide amide neuropeptide Y Ac-25-36. Cyclisation was performed by

side chain lactamisation of ornithine or lysine and glutamic or aspartic acid. The affinity of the 19 peptides ranged from Ki 0.6 nM to greater than 10,000 nM. We found that the size, position, orientation, configuration, and the location of the cycle plays an important role for receptor recognition. Circular dichroic studies have been performed to characterise the secondary structure of each peptide. Receptor binding studies were carried out on human neuroblastoma cell lines SK-N-MC (Y1) and SMS-KAN (Y2), and on rabbit kidney membranes (Y2). The pharmacological and spectral data showed that the alpha-helix content was not the predominant factor for high Y2-receptor affinity. Instead, the location and the size of the hydrophobic lactam bridge, and the conserved C-terminal tetrapeptide ( \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Tyr) seemed to be the main parameters. Using molecular dynamics, the structures of four cyclic peptides (i,i+4) have been investigated and compared with the previously published NMR structure of one of the cyclic peptide analogues. Significant differences have been found in the overall three-dimensional fold of the peptides. The distances between the N- and the C-terminus allow discrimination between peptides with high binding affinity and those with low binding affinity, because of the correlation that was found with the measured affinity. Thus, this study suggests that a turn-like structure and the orientation of the C-terminus towards the N-terminus play major roles for high affinity binding of cyclic dodecapeptides to the Y2-receptor. None of the cyclic segments exhibits significant affinity to the Y1-receptor. Thus, these results support the hypothesis of a discontinuous binding site of neuropeptide Y at the Y1-receptor.

L10 ANSWER 13 OF 42 MEDLINE on STN  
 DUPLICATE 8  
 ACCESSION NUMBER: 97085352 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 8931493  
 TITLE: Characterization of the phosphorylation site of PP59, a substrate for cyclic AMP-dependent protein kinase that is enriched in the synaptic membrane fraction of rat cerebellum.  
 AUTHOR: Rich R C; Aswad D W  
 CORPORATE SOURCE: School of Biological Sciences, University of California, Irvine 92697-4550, USA.  
 CONTRACT NUMBER: 2T32-MH14599 (NIMH) NS-17269 (NINDS)  
 SOURCE: Journal of neurochemistry, (1996 Dec) 67 (6) 2581-9.

Journal code: 2985190R. ISSN: 0022-3042.

PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199612  
ENTRY DATE: Entered STN: 19970128

Last Updated on STN: 19970128

Entered Medline: 19961223

AB We have identified previously a synaptic membrane-associated protein, PP59, that serves as a substrate for cyclic AMP-dependent protein kinase

and is enriched in rat cerebellum. We show here that PP59 can be

extracted from synaptic plasma membranes with a combination of 2% Triton

X-100 plus 1 M KCl. A 290-fold purification of PP59 was achieved by

selective solubilization, followed by continuous-elution preparative gel

electrophoresis. To determine the amino acid sequence surrounding the

cyclic AMP-dependent protein kinase phosphorylation site within PP59, the

partially purified 32P-phosphorylated protein was

digested with

chymotrypsin, and radiolabeled peptides were purified by sequential

reversed-phase HPLC in two different solvent systems.

Automated Edman

degradation revealed a single phosphorylation site

contained within the

sequence Ala- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -

Ser-Asp-Ser(P)-Thr-

Gly-Ser-Ser-Ser-Val-Tyr. No strong sequence homology

to this peptide

fragment with other known peptides or proteins in the SwissProt, PIR, or

GenPept databases could be found. A synthetic peptide containing this

unique 14-amino acid sequence was used to develop

polyclonal anti-peptide

antibodies that were affinity-purified and shown to

recognize intact PP59

as determined by western blotting. These antibodies

specifically

inhibited the phosphorylation of PP59 by cyclic AMP-dependent protein

kinase in an in vitro phosphorylation assay containing synaptic plasma

membranes.

L10 ANSWER 14 OF 42 MEDLINE on STN  
DUPLICATE 9

ACCESSION NUMBER: 95112855 MEDLINE

DOCUMENT NUMBER: PubMed ID: 7813480

TITLE: Evidence for a loop-like insertion  
mécanisme of pro-Omp A

into the inner membrane of Escherichia coli.

AUTHOR: Kuhn A; Kiefer D; Kohne C; Zhu H Y;

Tschantz W R; Dalbey R

E

CORPORATE SOURCE: Department of Microbiology,  
University of Karlsruhe,

Germany.

SOURCE: European journal of biochemistry / FEBS,  
(1994 Dec 15) 226

(3) 891-7.

Journal code: 0107600. ISSN: 0014-2956.

PUB. COUNTRY: GERMANY: Germany, Federal  
Republic of  
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199502

ENTRY DATE: Entered STN: 19950217

Last Updated on STN: 19950217

Entered Medline: 19950207

AB We have studied the insertion of pro-OmpA into the Escherichia coli

membrane in vivo using various mutants that have either alterations in the

amino-terminal parts of the signal peptide or in the mature region that

flanks the signal peptide. A pro-OmpA mutant with an amino terminal

extension of 142 residues derived from ribulokinase

(AraB) was analysed

for its membrane insertion. The AraB portion, which includes a cluster of

seven charged residues close to the signal sequence, did not interfere

with the Sec components and allowed efficient export of

OmpA. During

translocation the AraB portion remained in the cytoplasm.

Further mutants

of OmpA were constructed in the carboxy-terminal region flanking the

signal sequence. Pro-OmpA does not translocate across the membrane when a

charge cluster, comprised of Lys-Arg- \*\*\*Arg\*\*\* -

\*\*\*Glu\*\*\* -

\*\*\*Arg\*\*\*, is introduced after positions 5, 11 or 15 of

the mature

region, but is translocated when the cluster is introduced after position

22. This defines a region of about 20 residues in the

mature part of

pro-OmpA that is crucial for membrane insertion. These results suggest

that in the case of the Sec-dependent pro-OmpA, as with the

Sec-independent M13 procoat, the precursor assumes a loop-like structure

involving the signal peptide and the early part of the mature region,

leaving the amino terminus of the signal peptide at the cytoplasmic face.

L10 ANSWER 15 OF 42 CAPLUS COPYRIGHT 2005  
ACS on STN

ACCESSION NUMBER: 1993:513675 CAPLUS

DOCUMENT NUMBER: 119:113675

TITLE: Synthetic storage proteins containing  
defined levels

of essential amino acids for improvement of

the

nutritional value of plants

INVENTOR(S): Falco, Saverio Carl; Keeler, Sharon  
Jo; Rice, Janet

Ann

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and  
Co., USA

SOURCE: PCT Int. Appl., 176 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO. NO.	KIND	DATE	APPLICATION DATE
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WO 9303160	A1	19930218	WO 1992-US6412
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19920807  
W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR,  
LK, MG, MN, MW, NO,  
PL, RO, RU, SD, US  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT,  
LU, MC, NL, SE, BF,  
BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD,  
TG

AU 9224412	A1	19930302	AU 1992-24412
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19920807  
-AU 661334 B2 19950720  
EP 598806 A1 19940601 EP 1992-917644  
19920807

R: DE, DK, FR, GB, IT, NL, SE  
JP 07502163 T2 19950309 JP 1992-503771  
19920807

ZA 9205984 A 19940210 ZA 1992-5984  
19920810

US 5559223 A 19960924 US 1994-182175  
19940203

PRIORITY APPLN. INFO.: US 1991-743006  
A2 19910809

WO 1992-US6412 A  
19920807

OTHER SOURCE(S): MARPAT 119:113675

AB Synthetic polypeptides contg. .gtoreq.4 heptad units d-  
e-f-g-a-b-c with

a,d=Met,Leu,Val,Ile,Thr; e,g=Glu/Lys, Lys/Glu,  
\*\*\*Arg\*\*\* / \*\*\*Glu\*\*\* ,

\*\*\*Arg\*\*\* /Asp,Lys/Asp,Glu/Arg,Asp/Arg,Asp/Lys;  
b,c,f=any amino acid  
except Gly or Pro and .gtoreq.2 amino acids of b, c, and f  
selected from

Glu, Lys, Asp, Arg, His, Thr, Ser, Asn, Ala, Gln, and  
Cys), are designed

for use as plant seed storage proteins to improve the  
nutritional value of

the seed. These proteins are designed to dimerize as  
coiled-coils in aq.

environments. Up to 43% of essential amino acids Ile,  
Leu, Lys, Met, Thr,

and Val, and up to 14% of the essential amino acids Phe,  
Trp, and Tyr can

be incorporated into these synthetic proteins. Genes for  
these proteins

may be expressed in plants in order to improve the amino  
acid profile of

seed and leaves. Representative polypeptides contg. 4 or  
more heptad

units were synthesized and shown to form dimers or  
tetramers in soln.

Transgenic tobacco plants expressing genes for heptad-  
contg. polypeptides

were prep'd. When expressed from the phaseolin  
promoter, the heptad-contg.

protein accumulated in the seeds to 1-2% of the total seed  
protein.

L10 ANSWER 16 OF 42 MEDLINE on STN  
DUPLICATE 10

ACCESSION NUMBER: 93373945 MEDLINE

DOCUMENT NUMBER: PubMed ID: 8103453

TITLE: Prosomatostatin processing in Neuro2A  
cells. Role of  
beta-tum structure in the vicinity of the Arg-Lys  
cleavage  
site.

AUTHOR: Brakch N; Boileau G; Simonetti M; Nault  
C; Joseph-Bravo P;

Rholam M; Cohen P

CORPORATE SOURCE: Biochimie des Signaux  
Regulateurs Cellulaires et  
Moleculaires, Universite Pierre et Marie Curie,  
Paris,

France.

SOURCE: European journal of biochemistry / FEBS,  
(1993 Aug 15) 216

(1) 39-47.

Journal code: 0107600. ISSN: 0014-2956.

PUB. COUNTRY: GERMANY: Germany, Federal  
Republic of

DOCUMENT TYPE: Journal; Article; (JOURNAL  
ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199310

ENTRY DATE: Entered STN: 19931022

Last Updated on STN: 19970203

Entered Medline: 19931007

AB Proline residues located near the processing sites of  
human

prosomatostatin were previously shown to be important  
for cleavage of the  
precursor into somatostatin 28 and somatostatin 14

[Gomez, S., Boileau,  
G., Zollinger, L., Nault, C., Rholam, M. & Cohen, P.

(1989) EMBO J. 8,  
2911-2916]. In this study, site-directed and regional

mutagenesis of the

human prosomatostatin cDNA coupled with analysis by  
circular-dichroism and

Fourier-transform-infrared spectroscopies of the native  
and mutated

peptide sequences were used to elucidate the role of  
proline in

proteolytic processing. Glycine was substituted for  
proline a position -5

and the beta-tum-promoting sequence Pro- \*\*\*Arg\*\*\* -  
\*\*\*Glu\*\*\* -

\*\*\*Arg\*\*\* , located near the somatostatin-14 cleavage  
site and predicted

to form a beta-tum structure, was replaced by Ser-Ser-  
Asn-Arg or

Tyr-Lys-Gly-Arg, which have been shown by X-ray  
diffraction to form beta

tums in other proteins. Analysis of the prosomatostatin-  
derived peptides

produced by expression of the mutated cDNA species in  
Neuro2A cells

indicated that while Pro-5-->Ala abolished cleavage at the  
dibasic site,

the formation of mutants [Gly-5] prosomatostatin, [Ser-5,  
Ser-4, Arg-3]

prosomatostatin and [Tyr-5, Lys-4, Gly-3]

prosomatostatin did not affect

cleavage at the dibasic site but produced modifications in  
both the

relative proportions of the generated hormones and in  
precursor processing

efficiency. Moreover, spectroscopical analysis showed  
that whereas these

substitutions did not modify the presence of a beta turn structure in the corresponding peptide sequences, replacement of Pro-5-->Ala resulted in a dramatic increase in alpha-helix accompanied by the significant decrease of other structures including beta turn. The data support the hypothesis that the proline residue near the processing site for somatostatin-14 production is an important structural feature for conferring on the cleavage domain the adequate conformation for accessibility to processing enzymes and permitting production of equivalent amounts of both hormones.

L10 ANSWER 17 OF 42 MEDLINE on STN  
 DUPLICATE 11  
 ACCESSION NUMBER: 92114190 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 1370559  
 TITLE: Mutations within the proteolytic cleavage site of the Rous sarcoma virus glycoprotein define a requirement for dibasic residues for intracellular cleavage.  
 AUTHOR: Dong J Y; Dubay J W; Perez L G; Hunter E  
 CORPORATE SOURCE: Department of Microbiology, University of Alabama, Birmingham 35294.  
 CONTRACT NUMBER: CA-09467 (NCI)  
 CA-29884 (NCI)  
 SOURCE: Journal of virology, (1992 Feb) 66 (2) 865-74.  
 Journal code: 0113724. ISSN: 0022-538X.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 199202  
 ENTRY DATE: Entered STN: 19920308  
 Last Updated on STN: 20000303  
 Entered Medline: 19920214

AB We investigated the amino acid sequence requirements for intracellular cleavage of the Rous sarcoma virus glycoprotein precursor by introducing mutations into the region encoding the cleavage recognition site (Arg-Arg-Lys-Arg). In addition to mutants G1 (Arg-\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* ) and Dr1 (deletion of all four codons) that we have reported on previously (L. G. Perez and E. Hunter, J. Virol. 61:1609-1614, 1987), we constructed two additional mutants, AR1 (Arg-Arg-Arg-Arg), in which the highly conserved lysine is replaced by an arginine, and S19 (Ser- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* ), in which no dibasic pairs remain. The results of these studies demonstrate that when the cleavage sequence is deleted (Dr1) or modified to contain unpaired basic residues (S19), intracellular cleavage of the glycoprotein

precursor is completely blocked. This demonstrates that the cellular endopeptidase responsible for cleavage has a stringent requirement for the presence of a pair of basic residues (Arg-Arg or Lys-Arg). Furthermore, it implies that the cleavage enzyme is not trypsinlike, since it is unable to recognize arginine residues that are sensitive to trypsin action. Substitution of the mutated genes into a replication-competent avian retrovirus genome showed that cleavage of the glycoprotein precursor was not required for incorporation into virions but was necessary for infectivity. Treatment of BH-RCAN-S19-transfected turkey cells with low levels of trypsin resulted in the release of infectious virus, demonstrating that exogenous cleavage could generate a biologically active glycoprotein molecule.

L10 ANSWER 18 OF 42 CAPLUS COPYRIGHT 2005  
 ACS on STN  
 ACCESSION NUMBER: 1991:632892 CAPLUS  
 DOCUMENT NUMBER: 115:232892  
 TITLE: Preparation of peptides as reagents for detection of AIDS antibodies  
 INVENTOR(S): Ushijima, Koji; Okuda, Kenji; Taniguchi, Naoyuki  
 PATENT ASSIGNEE(S): Eiken Chemical Co., Ltd., Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 03099098	A2	19910424	JP 1989-238005
19890913			
PRIORITY APPLN. INFO.:			JP 1989-238005
19890913			
AB Title peptides H-Ala-Val-Glu-Arg-Tyr-Leu-Lys-Asp-Glu-Gln-Leu-Leu-Gly-Ile-Trp-Gly-Cys-Ser-Gly-Lys-Leu-Ile-Cys-OH (I) and R-Tyr-Arg-Arg-Asn-(Arg)4-Trp- ***Arg*** - ***Glu*** - ***Arg*** -OH (II); (R = H, H-Gly-Thr-Arg-Gln), which selectively bind to AIDS antibodies, are prepd. on a Biosystems Corp. 430A synthesizer. Detection of AIDS involves contacting I or II bound on a solid support with a sample liq., binding antibodies derived from AIDS virus in the sample liq. to the peptides, removing the sample liq., washing the solid support to remove unbound antibodies, and treating the solid support with a reagent, e.g. anti-human IgG, which selectively detects the AIDS antibodies. I detected 100% the AIDS antibodies in a serum sample of 29 HIV-antibody pos. patients by the			

dot-blot method using nitrocellulose membrane-bound I (5 .mu.g/mL) and anti-IgG biotin-avidin-alkali phosphatase reagent.

L10 ANSWER 19 OF 42 MEDLINE on STN  
ACCESSION NUMBER: 90204650 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 1969500  
TITLE: Biological activities of a synthetic peptide composed of two unlinked domains from a retroviral transmembrane protein sequence.  
AUTHOR: Wegemer D E; Kabat K G; Klotzer W S  
CORPORATE SOURCE: R. W. Johnson Pharmaceutical Research Institute, San Diego, California 92121.

SOURCE: Journal of virology, (1990 Apr) 64 (4) 1429-36.

Journal code: 0113724. ISSN: 0022-538X.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 199005

ENTRY DATE: Entered STN: 19900601

Last Updated on STN: 19970203

Entered Medline: 19900503

AB We report several biological activities of a synthetic peptide whose sequence contains the highly conserved region of feline leukemia virus

transmembrane protein (TM) synthetically linked to another short

TM-derived sequence particularly rich in polar positive residues. This

29-amino-acid peptide blocked [3H]thymidine uptake 30 to 50% by

concanavalin A-stimulated CD4(+)-but not CD8(+)-enriched murine

splenocytes. Maximal suppression was detected at 12.5 micrograms (3

microM) to 75 micrograms (19 microM) per ml of growth medium; stimulation

of [3H]thymidine uptake was observed at higher peptide concentrations.

The synthetic peptide inhibited but did not stimulate [3H]thymidine uptake

by mitogen-activated thymocytes and antibody production by splenocytes as

determined in a liquid hemolytic plaque assay.

Similarities are reported

between a consensus sequence of diverse retroviral TMs and a region of

alpha interferons shown by others to be important for antiviral and

cytostatic properties. The TM sequence-derived synthetic peptide blocked

in a nontoxic and sequence-specific manner the release of murine leukemia

virus from two chronically infected cell lines. We suggest that some of

the biological effects of retroviral TM are mediated through a common

pathway shared with alpha interferons.

L10 ANSWER 20 OF 42 CAPLUS COPYRIGHT 2005  
ACS on STN  
ACCESSION NUMBER: 1989:633652 CAPLUS  
DOCUMENT NUMBER: 111:233652

TITLE: Application of protected-peptide S-alkyl thioester

method to the synthesis of HU-type DNA-binding protein (HBs)

AUTHOR(S): Hojo, Hironobu; Maegawa, Chieko; Yoshimura, Shoko;

Aimoto, Saburo

CORPORATE SOURCE: Inst. Protein Res., Osaka Univ., Osaka, 565, Japan

SOURCE: Peptide Chemistry (1989), Volume Date 1988, 26th,

97-102

CODEN: PECHDP; ISSN: 0388-3698

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A report from a symposium. The title method was applied to the synthesis

of HU-type DNA-binding protein H-Met-Asn-Lys-Thr-Glu-Leu-Ile-Asn-Ala-Val-

Ala-Glu-Thr-Ser-Gly-Leu-Ser-Lys-Lys-Asp-Ala-Thr-Lys-Ala-Val-Asp-Ala-Val-

Phe-Asp-Ser-Ile-Thr-Glu-Ala-Leu-Arg-Lys-Gly-Asp-Lys-Val-Gln-Leu-Ile-Gly-

Phe-Gly-Asn-Phe-Gly-Val- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*arg\*\*\*

-Ala-Ala-Arg-Lys-Gly-Arg-Asn-Pro-Gln-Thr-Gly-Glu-Glu-Met-Glu-Ile-Pro-Ala-

Ser-Lys-Val-Pro-Ala-Phe-Lys-Pro-Gly-Lys-Ala-Leu-Lys-Asp-Ala-Val-Lys-OH (I)

isolated from Bacillus stearothermophilus. Four protected fragments were

used in the synthesis of I; 3 of the fragments were prepd. as S-alkyl

thioesters.

L10 ANSWER 21 OF 42 MEDLINE on STN  
DUPLICATE 12

ACCESSION NUMBER: 88195948 MEDLINE

DOCUMENT NUMBER: PubMed ID: 2896118

TITLE: Primary structures of somatostatins from the islet organ of

the hagfish suggest an anomalous pathway of posttranslational processing of prosomatostatin-

1.

AUTHOR: Conlon J M; Askensten U; Falkmer S; Thim L

CORPORATE SOURCE: Clinical Research Group for Gastrointestinal Endocrinology

of the Max-Planck-Society, University of

Gottingen, Federal

Republic of Germany.

SOURCE: Endocrinology, (1988 May) 122 (5) 1855-9.

Journal code: 0375040. ISSN: 0013-7227.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals

ENTRY MONTH: 198806

ENTRY DATE: Entered STN: 19900308

Last Updated on STN: 19950206

Entered Medline: 19880601

AB The cyclostomes represent the first class of vertebrate in evolution to

develop an endocrine pancreas. Two peptides with somatostatin-like

immunoreactivity were isolated from the islet organ of one such cyclostome, the Atlantic hagfish (*Myxine glutinosa*). The primary structure of the more abundant peptide was established as: Ala-Val-Glu-Arg-Pro5-Arg-Gln-Asp-Gly-Gln10-Val-His-Glu-Pro- Pro15-Gly-  
 \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Lys20-Ala-Gly-Cys-Lys-Asn25-Phe-Phe-Trp-Lys-Thr30-Phe-Thr-Ser-Cys. The second peptide, comprising 27% of the total immunoreactivity in the islet extract, was identical to mammalian somatostatin-14. The pathway of posttranslational processing of prosomatostatin in the hagfish islet differs markedly from the pathway in the higher vertebrates. In the mammalian pancreas, prosomatostatin is cleaved at the site of the single arginyl residue (corresponding to position 6 in hagfish somatostatin-34) and at the arginine-lysine site (corresponding to positions 19 and 20 in the hagfish peptide) to generate somatostatin-14 and somatostatin-28(1-12)-peptide. In the hagfish islet, Arg6 is not used as a cleavage site and cleavage at Arg19-Lys20 represents only a minor pathway of processing. The data provide further evidence of the strong evolutionary pressure to conserve the complete amino acid sequence of somatostatin-14.

L10 ANSWER 22 OF 42 MEDLINE on STN  
 DUPLICATE 13  
 ACCESSION NUMBER: 89145030 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 3226961  
 TITLE: The bag cell egg-laying hormones of *Aplysia brasiliana* and *Aplysia californica* are identical.  
 AUTHOR: Nagle G T; Painter S D; Blankenship J E; Choate J V;  
 Kurosky A  
 CORPORATE SOURCE: Marine Biomedical Institute, University of Texas Medical Branch, Galveston 77550.  
 CONTRACT NUMBER: CA 17701 (NCI)  
 NS 22079 (NINDS)  
 NS 23169 (NINDS)  
 +  
 SOURCE: Peptides, (1988 Jul-Aug) 9 (4) 867-72.  
 Journal code: 8008690. ISSN: 0196-9781.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198904  
 ENTRY DATE: Entered STN: 19900306  
 Last Updated on STN: 19970203  
 Entered Medline: 19890404

AB Egg laying in the marine molluscan genus *Aplysia* is elicited by an egg-laying hormone (ELH) which induces ovulation and acts on central neurons to effect egg-laying behavior. ELH, isolated from the A.

*californica* bag cells, and three ELH-related peptides, isolated from the *A. californica* atrial gland, have been chemically characterized, yet relatively little is known about homologous peptides in other *Aplysia* species. In these studies, the primary structure of *A. brasiliana* ELH was determined. Bag cell clusters were extracted in an acidic solution, and the peptides purified by sequential gel filtration and reversed-phase HPLC; ELH was identified by bioassay. Amino acid compositional and sequence analyses demonstrated that the neurohormone was a 36-residue peptide whose sequence was identical to that of *A. californica* ELH:  
 NH2-Ile-Ser-Ile-Asn-Gln-Asp-Leu-Lys-Ala-Ile-Thr-Asp-Met-Leu-Leu-Thr-Glu-Gln-Ile- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Gln-Arg-Tyr-Leu-Ala-Asp-Leu-Arg-Gln-Arg-Leu-Leu-Glu-Lys-COOH .

L10 ANSWER 23 OF 42 MEDLINE on STN  
 DUPLICATE 14  
 ACCESSION NUMBER: 87250626 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 2885328  
 TITLE: Enzymes that process somatostatin precursors. A novel endoprotease that cleaves before the arginine-lysine doublet is involved in somatostatin-28 convertase activity of rat brain cortex.  
 AUTHOR: Gluschkof P; Gomez S; Morel A; Cohen P  
 SOURCE: Journal of biological chemistry, (1987 Jul 15) 262 (20) 9615-20.  
 Journal code: 2985121R. ISSN: 0021-9258.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198708  
 ENTRY DATE: Entered STN: 19900305  
 Last Updated on STN: 20000303  
 Entered Medline: 19870813

AB The selective processing activity which generates both the NH2- and COOH-terminal fragments of the octacosapeptide somatostatin-28 (S-28) was investigated. Separation into two distinct proteolytic activities was achieved by ion-exchange chromatography. An endoprotease cleaving either the substrate Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Lys-Ala-Gly-Ala-Lys-Asn-Tyr-NH2, i.e. [Ala17,Tyr20]S-28-(10-20)-NH2 (peptide I), or the octacosapeptide somatostatin-28, on the NH2 side of the Arg-Lys doublet was separated from an aminopeptidase B-like activity. Whereas the endoprotease cleaves a single peptide bond, between Glu12 and Arg13 of S-28, the aminopeptidase B-like enzyme removes both Arg13 and



Lys14 stepwise from the NH<sub>2</sub> terminus of the corresponding COOH-terminal fragment. This endoprotease activity peaks around pH 8.5, whereas the optimal aminopeptidase B-like activity is in the pH range 6.2-8.5. Combination of both enzymes resulted in the recovery of the overall S-28 convertase activity with an optimal pH at 7. In addition, this endoprotease appears to be very sensitive to divalent cations since it is strongly inhibited by chelating agents. The use of selectively modified undeca-peptides derived from the reference substrate peptide 1 by a single modification of the amino acids Glu12, Arg13, and Lys14 at the cleavage locus showed that both basic residues are critically important, whereas Glu12 is not. It is proposed that S-28 processing involves a divalent cation-sensitive endoprotease that is sensitive to thiol reagents, which cleaves before the Arg-Lys doublet, which is not trypsin-like, and whose action is coupled to an aminopeptidase B-like enzyme.

L10 ANSWER 24 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1987:418085 CAPLUS  
 DOCUMENT NUMBER: 107:18085  
 TITLE: Differential binding of somatostatin agonists to somatostatin receptors in brain and adenohypophysis  
 AUTHOR(S): Heiman, Mark L.; Murphy, William A.; Coy, David H.  
 CORPORATE SOURCE: Sch. Med., Tulane Univ., New Orleans, LA, USA  
 SOURCE: Neuroendocrinology (1987), 45(6), 429-36  
 CODEN: NUNDAJ; ISSN: 0028-3835  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB To improve understanding of the ligand specificity of somatostatin (SRIF) receptors in pituitary and brain, and to identify analogs that bind to 1 type exclusively, several new SRIF analogs were compared for competitive binding to pituitary and cerebral cortex membranes. Binding of [<sup>125</sup>I-Tyr11]SRIF to hypophysis and brain was of high affinity (disocn. const. = 0.76 nM and 0.37 nM, resp.) and was characteristic of binding to 1 class of sites in both tissues. Competition by several SRIF analogs for such radioligand binding demonstrated that ligand specificity of adenohypophyseal receptors was distinctly different from that of cerebral cortex. Two cyclic octapeptides bound to pituitary SRIF receptors with high affinity [K<sub>i</sub> = 0.85 nM and 0.35 nM] and were potent inhibitors of growth hormone secretion from primary cultured pituitary cells (EC<sub>50</sub> =

0.009 nM and 0.017 nM, resp.). However, these selective peptides did not compete (K<sub>i</sub> .mchgt. 1 .mu.M) for radioligand binding to brain. Amidation of the C-terminal end appeared to strikingly alter brain SRIF receptor recognition of the substituted ligand. Indeed, such amidation of the parent peptide resulted in a reduced ability to displace labeled ligand from brains sites [K<sub>i</sub> = 165.3-842.2 nM] but did not affect competition for pituitary receptors. The results indicate that anterior pituitary SRIF receptors (SRIFa) have ligand specificities which are clearly different from those of their brain counterparts (SRIFb). Further, 2 potent SRIFa agonists were identified which could be key ligands for studying interactions at the SRIFa receptor as well as being useful selective therapeutic agents.

L10 ANSWER 25 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN  
 ACCESSION NUMBER: 1987:473351 CAPLUS  
 DOCUMENT NUMBER: 107:73351  
 TITLE: Determination of convertase activity  
 PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique, Fr.  
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.
JP 61260898	A2	19861119	JP 1985-101167
19850513			
PRIORITY APPLN. INFO.:			JP 1985-101167
19850513			
AB Convertase (somatostatin convertase, corticoliberin convertase, oxytocin/neurophysin convertase) is detd. with <sup>125</sup> I-labeled synthetic peptides as substrates. Thus, brain cortex tissues from rats were homogenized with pH 7.4 phosphate buffer contg. 200 mM KCl, centrifuged, and the ext. was incubated with <sup>125</sup> I-labeled peptide 1 (Pro- ***Arg*** - ***Glu*** - ***Arg*** -Lys-Ala-Gly-Ala-Lys-Asn) at 37.degree. for a given period of time, 30 mM NH <sub>4</sub> OAc-CM-52 resin (1:10 vol./vol.) then was added to terminate the reaction, the reaction mixt. was centrifuged, and the resin was sepd., washed and counted for the detn. of somatostatin convertase activity.			

L10 ANSWER 26 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN DUPLICATE 15  
 ACCESSION NUMBER: 1987:423682 CAPLUS  
 DOCUMENT NUMBER: 107:23682

TITLE: Synthesis of peptide gels for the investigation of oligopeptide-oligonucleotide interactions

AUTHOR(S): Eckstein, Heiner; Hu, Zheng; Schott, Herbert

CORPORATE SOURCE: Inst. Org. Chem., Univ. Tuebingen, Tuebingen, Fed. Rep. Ger.

SOURCE: Biopolymers (1986), 25(6), 1055-67  
CODEN: BIPMAA; ISSN: 0006-3525

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Peptide gels usable as protein model systems were synthesized by a crosslinking copolym. of acryloyl-substituted peptides with 1,4-tetramethylene dimethacrylate. A specially adapted approach to peptide synthesis allows the removal of the amino terminal benzyloxycarbonyl group at the end of the peptide synthesis, followed by the introduction of an acryloyl group. The polymerizable peptide monomers obtained can be transferred into insol. peptide gels by radical copolym. with crosslinking agents. After cleavage of the protecting groups of the side chains, these peptides gels can be used both as protein model systems for investigating peptide-oligonucleotide interaction and as sorbents for affinity chromatog. The prepn. and characterization of the peptide gels

Ala-Lys-Glu-Lys-Ala-OMe, Ala- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Ala-OMe, Ala-Arg-Glu-Lys-Ala-OMe (I), and Ala-Arg-Ala-Lys-Ala-OMe as well as the conditions for the removal of the protecting groups is presented.

Gel I contains the natural peptide sequence Arg-Glu-Lys while the other gels are analogs of this sequence.

L10 ANSWER 27 OF 42 MEDLINE on STN  
DUPLICATE 16  
ACCESSION NUMBER: 87055212 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 2877919  
TITLE: Characterization of coho salmon (Oncorhynchus kisutch) islet somatostatins.

COMMENT: Erratum in: Gen Comp Endocrinol 1987 Jan;65(1):166

AUTHOR: Plisetskaya E M; Pollock H G; Rouse J B; Hamilton J W; Kimmel J R; Andrews P C; Gorbman A

CONTRACT NUMBER: AM-09072-19 (NIADDK)  
AM-18024 (NIADDK)  
AM-18849 (NIADDK)

SOURCE: General and comparative endocrinology, (1986 Aug) 63 (2) 252-63.  
Journal code: 0370735. ISSN: 0016-6480.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198701

ENTRY DATE: Entered STN: 19900302

Last Updated on STN: 19970203  
Entered Medline: 19870121

AB Three different somatostatins have been isolated from the pancreatic islet tissue of the coho salmon (Oncorhynchus kisutch) by gel filtration and HPLC. Two of these peptides contain 14 amino acids and the larger third peptide consists of 25 amino acids. The sequence of the salmon SST-25 is

Ser-Val-Asp-Asn-Leu-Pro-Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\*

-Lys-Ala-Gly-Cys-Lys-Asn-Phe-Tyr-Trp-Lys-Gly-Phe-Thr-Ser-Cys. The sequence of the salmon SST-14-I is Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-Phe-Thr-Ser-Cys. The other small somatostatin (SST-14-II) which was not sequenced has an amino acid composition identical to the C-terminal 14 amino acids of the SST-25 and it is probably derived from this larger form. Evidence for low levels of a somatostatin containing 28 amino acids is also presented. This SST-28 appears to be an N-terminal extended precursor of SST-25 or a peptide derived via alternative processing of a common preprosomatostatin. Injected into juvenile salmon, SST-25 caused a decline in circulating levels of plasma insulin, depletion of liver glycogen, and activation of lipolytic pathways. Juvenile salmon treated with anti-SST-25 serum revealed elevated levels of plasma insulin as well as an increase of the glycogen content of the liver.

L10 ANSWER 28 OF 42 MEDLINE on STN  
DUPLICATE 17  
ACCESSION NUMBER: 85289236 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 3897221  
TITLE: The somatostatin-28 convertase of rat brain cortex is associated with secretory granule membranes.

AUTHOR: Gomez S; Gluschkof P; Morel A; Cohen P

SOURCE: Journal of biological chemistry, (1985 Sep 5) 260 (19) 10541-5.  
Journal code: 2985121R. ISSN: 0021-9258.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

ENTRY MONTH: 198510

ENTRY DATE: Entered STN: 19900320  
Last Updated on STN: 20000303  
Entered Medline: 19851007

AB An Arg-Lys esteropeptidase that converts somatostatin-28 in vitro into somatostatin-14 was previously characterized in extracts of rat cerebral cortex. Both the octacosapeptide somatostatin-28 and a synthetic undecapeptide containing the sequence around the Arg-Lys site, i.e.

Peptide I: Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\*

-Lys-Ala-Gly-Ala-Lys-Asn-125 I-Tyr (NH<sub>2</sub>), were used as substrates. We

demonstrate that the converting activity is associated with neurosecretory

granule fractions prepared from both cortical and hypothalamic tissue.

This activity co-sediments with ghosts obtained from intact vesicles by

osmotic shock. After solubilization either by mild ionic strength or

sonication of vesicle membranes, the converting activity appears to

possess properties indistinguishable from the convertase prepared directly

from unfractionated tissue. It cleaves Peptide I to Ala-Gly-Ala-Lys-Asn-

125I-Tyr (NH<sub>2</sub>) (Peptide II) and generates both the NH<sub>2</sub>- and COOH-terminal

fragments of somatostatin-28, i.e. somatostatin-28 (1-12) and

somatostatin-14, when the octacosapeptide is used as substrate. The

selectivity appears to be strict and to depend upon the sequence around

the Arg-Lys pair, as inferred from competition studies conducted with

structural analogs possessing either an Arg-Lys or Arg-Arg doublet. It is

concluded that this convertase could represent the enzyme system involved

in the in vivo production of both the dodeca and tetradeca peptides from

their common somatostatin-28 precursor.

L10 ANSWER 29 OF 42 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on

STN

ACCESSION NUMBER: 1986:143263 BIOSIS

DOCUMENT NUMBER: PREV198681053679;

BA81:53679

TITLE: PURIFICATION AND AMINO-ACID SEQUENCE OF THE OVULATION

NEUROHORMONE OF LYMNÆA-STAGNALIS.

AUTHOR(S): EBBERINK R H M [Reprint author];

VAN LOENHOUT H; GERAERTS W

P M; JOOSE J

CORPORATE SOURCE: BIOLOGICAL LABORATORY, VRIJE UNIVERSITEIT, PO BOX 7161,

1007 MC AMSTERDAM, NETHERLANDS

SOURCE: Proceedings of the National Academy of Sciences of the

United States of America, (1985) Vol. 82, No.

22, pp.

7767-7771.

CODEN: PNASA6. ISSN: 0027-8424.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: ENGLISH

ENTRY DATE: Entered STN: 25 Apr 1986

Last Updated on STN: 25 Apr 1986

AB The neurosecretory caudodorsal cells of the freshwater pulmonate snail

*Lymanaea stagnalis* produce an ovulation hormone [caudodorsal cell hormone

(CDCH)] that is stored and released at the periphery of the intercerebral

commissure. In the present study, CDCH has been purified and sequenced by

micromethods. CDCH has been isolated, starting with a hydrochloric acid

extract of commissures. By chromatofocusing, by high-performance,

gel-permeation chromatography, and by reversed-phase, high-performance

liquid chromatography. This procedure resulted in a 1690-fold

purification and a 66% recovery. The data of the sequence analysis of

CDCH are in agreement with the amino acid composition and reveal the

following sequence of 36 amino acids: H-Leu-Ser-Ile-Thr-Asn-Asp-Leu-Arg-

Ala-Ile-Ala-Asp-Ser-Tyr-Leu-Tyr-Asp-Gln-His-Trp-Leu-\*\*\*Arg\*\*\* -

\*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Gln-Glu-Glu-Asn-Leu-Arg-Arg-Arg-Phe-Leu-Glu-Leu-

OH. Enzyme data indicate that the COOH end of the hormone is amidated.

CDCH has a calculated isoelectric point of 9.0 and a calculated M<sub>4</sub> of

4529. CDCH shares a 44% homology with the sequence of the egg-laying

hormone of the marine opisthobranch mollusc *Aplysia californica*.

L10 ANSWER 30 OF 42 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on

STN

ACCESSION NUMBER: 1985:339739 BIOSIS

DOCUMENT NUMBER: PREV198580009731;

BA80:9731

TITLE: SYNTHESIS OF PARTIAL SEQUENCES OF RIBOSOMAL PROTEINS AND

THEIR DERIVATIZATION WITH

ACRYLOYL RESIDUES.

AUTHOR(S): ECKSTEIN H [Reprint author]; HU Z;

SCHOTT H; BAYER E

CORPORATE SOURCE: INST FUER ORGANISCHE

CHEMIE, AUF DER MORGENSTELLE 18,

D-7400 TUEBINGEN 1, FRG

SOURCE: International Journal of Peptide and Protein Research,

(1985) Vol. 25, No. 4, pp. 355-367.

CODEN: JPPC3. ISSN: 0367-8377.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: ENGLISH

AB Peptide sequences B-X-B (B = Arg and/or Lys; X = Glu or Asp) are of

considerable interest because of their possible interactions with rRNA.

The syntheses of various protected peptides with the sequence

Ala-B-X-B-Ala (X = Glu or Ala) and [Arg]<sub>n</sub>-Pro (n = 1-3) are described.

They are carried out in solution according to the

conventional peptide synthesis method. The carbobenzoxy group is used for

N.alpha.-protection

and the methyl group for protection of the terminal carboxyl group. The

side chains of Lys and Glu are respectively blocked with the

tert-butyloxycarbonyl and the tertiary butyl group and the guanidinic

function of arginine with the NO<sub>2</sub>-group. The intermediate peptides are

purified either by extraction or by size exclusion chromatography. A specially adapted strategy of peptide synthesis allows removal of the amino terminal Cbo-group at the end of the synthesis and introduction of an acryloyl group. By radical copolymerization with cross-linking agents these acryloyl derivatives can be transferred into insoluble peptide gels suitable for affinity chromatography and for investigating peptide-oligonucleotide interactions. The isolation of the unprotected peptides Arg-Arg-Arg-Pro, Ala- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Ala, Ala-Arg-Glu-Lys-Ala, Ala-Arg-Ala-Lys-Ala, Ala-Lys-Glu-Lys-Ala and their characterization using amino acid analysis, electrophoresis and FAB-mass spectrometry is also reported.

L10 ANSWER 31 OF 42 MEDLINE on STN  
 DUPLICATE 18  
 ACCESSION NUMBER: 85113184 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 2857489  
 TITLE: Processing of an anglerfish somatostatin precursor to a hydroxylysine-containing somatostatin 28.  
 AUTHOR: Spiess J; Noe B D  
 CONTRACT NUMBER: AM16921 (NIADDK)  
 AM26378 (NIADDK)  
 SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1985 Jan) 82 (2) 277-81.  
 Journal code: 7505876. ISSN: 0027-8424.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198503  
 ENTRY DATE: Entered STN: 19900320  
 Last Updated on STN: 19970203  
 Entered Medline: 19850301  
 AB A novel 28-residue somatostatin (SS) has been isolated from anglerfish pancreatic islets and characterized by complete Edman degradation, peptide mapping, and amino acid analysis. The primary structure of this anglerfish SS-28 (aSS-28) containing hydroxylysine (Hyl) was established to be H-Ser-Val-Asp-Ser-Thr-Asn-Asn-Leu-Pro-Pro-\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Lys-Ala-Gly-Cys- Lys-Asn-Phe-Tyr-Trp-Hyl-Gly-Phe-Thr-Ser-Cys-OH. This sequence (with the exception of hydroxylysine-23, which is replaced by lysine) is identical to the sequence of the COOH-terminal 28 residues of prepro-SS II predicted on the basis of cDNA analysis [Hobart, P., Crawford, R., Shen, L., Pictet, R. & Rutter, W. J. (1980) Nature (London) 288, 137-141]. This is the first instance in which hydroxylysine (to date characteristically observed in collagen or collagen-like

structures) has been found in a potential regulatory peptide. Chromatographic characterization of peptides, radiolabeled in islet culture, revealed that aSS-28 contained 10-12% of the radioactivity incorporated into the 8000- to 1000-dalton SS-like polypeptides, whereas 88-90% of this radioactivity was detected in anglerfish SS-14. It appears probable that aSS-28 represents the predominant primary cleavage product derived from prepro-SS II by cleavage at the COOH-terminal side of a single arginine. Based on knowledge of the collagen biosynthesis, it is speculated that hydroxylation may take place as an early post-translational event.

L10 ANSWER 32 OF 42 MEDLINE on STN  
 ACCESSION NUMBER: 85303573 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 2863928  
 TITLE: Anglerfish pancreatic islets produce two forms of somatostatin-28.  
 AUTHOR: Spiess J; Noe B D  
 CONTRACT NUMBER: AM-16921 (NIADDK)  
 AM-26378 (NIADDK)  
 SOURCE: Advances in experimental medicine and biology, (1985) 188 141-54.  
 Journal code: 0121103. ISSN: 0065-2598.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198509  
 ENTRY DATE: Entered STN: 19900320  
 Last Updated on STN: 19970203  
 Entered Medline: 19850930  
 AB It has been predicted on the basis of cDNA sequence analysis that anglerfish pancreatic islets contain at least two different preprosomatostatins (I and II). The C-terminal amino acid sequences of preprosomatostatin I and II were predicted to be identical to mammalian hypothalamic somatostatin-14 (SS-14) and its analog [Tyr7, Gly10]SS-14, respectively. That SS-14 is expressed in anglerfish pancreatic islets, has been shown earlier in pulse-chase experiments and by chemical characterization. However, it was observed that [Tyr7, Gly10]SS-14 was not expressed as such, but as part of larger polypeptides. Pulse-chase experiments combined with reverse-phase high pressure liquid chromatography, amino acid analysis with two different chromatographic systems, and complete Edman degradation indicated that preprosomatostatin II is processed in anglerfish islets to two different forms of somatostatin-28 (SS-28). The primary structure of the major form containing hydroxylysine (Hyl) was determined to be: H-Ser-Val-Asp-Ser-Thr-

Asn-Asn-Leu-Pro-Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* -  
 \*\*\*Arg\*\*\*  
 -Lys-Ala-Gly-Cys-Lys-Asn-Phe-Tyr-Trp-Hyl-Gly-Phe-  
 Thr-Ser-Cys-OH. The  
 amino acid sequence of the minor form differs only at  
 residue 23 by  
 substitution of lysine for hydroxylysine. This is the first  
 time that  
 hydroxylysine, an amino acid which characteristically  
 occurs in collagen  
 or collagen-like structures has been identified in a  
 potential regulatory  
 peptide. It can be speculated that this amino acid is  
 formed by  
 post-translational hydroxylation of a lysine C-terminally  
 linked to a  
 glycine residue and thus modified at a site which has been  
 recognized as  
 hydroxylation site in collagen or collagen-like structures.  
 The  
 biological consequences of this unusual modification are  
 being  
 investigated.

L10 ANSWER 33 OF 42 MEDLINE on STN  
 DUPLICATE 19  
 ACCESSION NUMBER: 85038574 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 6149550  
 TITLE: Enzymes processing somatostatin precursors:  
 an-Arg-Lys

esteropeptidase from the rat brain cortex  
 converting  
 somatostatin-28 into somatostatin-14.  
 AUTHOR: Gluschkof P; Morel A; Gomez S;  
 Nicolas P; Fahy C; Cohen P  
 SOURCE: Proceedings of the National Academy of  
 Sciences of the  
 United States of America, (1984 Nov) 81 (21)  
 6662-6.

Journal code: 7505876. ISSN: 0027-8424.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL  
 ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198412  
 ENTRY DATE: Entered STN: 19900320  
 Last Updated on STN: 19970203  
 Entered Medline: 19841219

AB The post-translational proteolytic conversion of  
 somatostatin-14  
 precursors was studied to characterize the enzyme system  
 responsible for  
 the production of the tetradecapeptide either from its 15-  
 kDa precursor  
 protein or from its COOH-terminal fragment,  
 somatostatin-28. A synthetic  
 undecapeptide Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* -  
 \*\*\*Arg\*\*\*  
 -Lys-Ala-Gly-Ala-Lys-Asn-Tyr(NH2), homologous to the  
 amino acid sequence  
 of the octacosapeptide at the putative Arg-Lys cleavage  
 locus, was used as  
 substrate, after 125I labeling on the COOH-terminal  
 tyrosine residue. A  
 90-kDa proteolytic activity was detected in rat brain  
 cortex extracts  
 after molecular sieve fractionation followed by ion  
 exchange

chromatography. The protease released the peptide 125I-  
 Ala-Gly-Ala-Lys-  
 Asn-Tyr(NH2) from the synthetic undecapeptide substrate  
 and converted

somatostatin-28 into somatostatin-14 under similar  
 conditions (pH 7.0).

Under these experimental conditions, the product  
 tetradecapeptide was not  
 further degraded by the enzyme. In contrast, the purified  
 15-kDa

hypothalamic precursor remained unaffected when  
 exposed to the proteolytic  
 enzyme under identical conditions. It is concluded that  
 this Arg-Lys

esteropeptidase from the brain cortex may be involved in  
 the in vivo

processing of the somatostatin-28 fragment of  
 prosomatostatin into  
 somatostatin-14, the former species being an obligatory  
 intermediate in a  
 two-step proteolytic mechanism leading to somatostatin-  
 14.

L10 ANSWER 34 OF 42 CAPLUS COPYRIGHT 2005  
 ACS on STN  
 ACCESSION NUMBER: 1984:139633 CAPLUS  
 DOCUMENT NUMBER: 100:139633  
 TITLE: Pentadecapeptide  
 PATENT ASSIGNEE(S): Agency of Industrial Sciences  
 and Technology, Japan  
 SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF

DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO. NO.	KIND	DATE	APPLICATION
JP 58183656	A2	19831026	JP 1982-66080
19820420			
JP 60002320	B4	19850121	
PRIORITY APPLN. INFO.:			JP 1982-66080
19820420			
AB H-Tyr-Ser-Ala-Asn-Ser-Asn-Pro-Ala-Met-Ala-Pro- ***Arg*** - ***Glu*** - ***Arg*** -Lys-OH, useful for the radioimmunoassay of somatostatin 28, was prepd. by treatment of BOC-Tyr(Br-Z)-Ser(Bzl)-Ala- Asn-Ser(Bzl)-Asn-Pro- Ala-Met-Ala-Pro-Arg(Tos)-Glu(Bzl)-Arg(Tos)-Lys(Cl- Z)-resin (I) (BOC = Me3CO2C, Br-Z = o-BrC6H4CH2O2C, Bzl = PhCH2, Tos = tosyl, Cl-Z = o-ClC6H4CH2O2C) with anisole/HF followed by chromatog. I was prepd. by sequential coupling of protected amino acid using an automatic peptide synthesizer.			

L10 ANSWER 35 OF 42 MEDLINE on STN  
 DUPLICATE 20  
 ACCESSION NUMBER: 83267582 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 6135755  
 TITLE: Structure of somatostatin isolated from  
 bovine retina.  
 AUTHOR: Marshak D W; Reeve J R; Shively J E;  
 Hawke D; Takami M S;  
 Yamada T

CONTRACT NUMBER: AM 17328 (NIADDK)  
EY 01190 (NEI)  
SOURCE: Journal of neurochemistry, (1983 Sep) 41  
(3) 601-6.

Journal code: 2985190R. ISSN: 0022-3042.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL  
ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198309  
ENTRY DATE: Entered STN: 19900319  
Last Updated on STN: 19970203  
Entered Medline: 19830923

AB Somatostatin-like immunoreactivity (SLI) from bovine retina was purified and its structure determined. Retinal tissue (1868 g) extracted with 3% acetic acid yielded 18.6 nmol SLI. This peptide was purified by chromatography on an affinity column made with anti-somatostatin antiserum, a reverse-phase C-18 HPLC column, and three sequential applications on a reverse-phase phenyl HPLC column. The peptide was purified 103,000-fold from the initial extract with an overall yield of 14.4%. Amino acid sequence determination by an automatic Edman degradation technique revealed the sequence to be as follows:  
Ser-Ala-Asn-Ser-Asn-Pro-Ala-Met- Ala-Pro- \*\*\*Arg\*\*\*  
- \*\*\*Glu\*\*\* -  
\*\*\*Arg\*\*\* -Lys-Ala-Gly-(Cys)-Lys- Asn-Phe-Phe-Trp-  
Lys-Thr-(Phe, Thr, Ser,  
Cys). The apparent identity of this peptide with somatostatin octacosapeptide (S28) purified from other mammalian tissue indicates the phylogenetic conservation of its structure and facilitates the use of the retina as a model system for studying the neurotransmitter function of somatostatin.

L10 ANSWER 36 OF 42 MEDLINE on STN  
DUPLICATE 21  
ACCESSION NUMBER: 81191203 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 7228502  
TITLE: Peptide segment coupling in aqueous medium: silver ion activation of the thiolcarboxyl group.  
AUTHOR: Blake J  
CONTRACT NUMBER: AM-18677 (NIADDK)  
AM-6097 (NIADDK)  
GM-2907 (NIGMS)  
SOURCE: International journal of peptide and protein research,  
(1981 Feb) 17 (2) 273-4.  
Journal code: 0330420. ISSN: 0367-8377.  
PUB. COUNTRY: Denmark  
DOCUMENT TYPE: Journal; Article; (JOURNAL  
ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198107  
ENTRY DATE: Entered STN: 19900316  
Last Updated on STN: 19970203  
Entered Medline: 19810720

AB The use of the thiolcarboxyl function for the assemblage of deblocked

peptide segments in aqueous medium has been investigated. The C-terminal thiolcarboxyl peptide Ac-Tyr-Arg- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\*  
-Gly-SH (2a) has been synthesized by the solid-phase method. The silver compound of peptide 2a was coupled to H-Phe-Ala-Glu-Gly-OH in 50% aqueous dimethylformamide to give a 40% yield of Ac-Tyr-Arg- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Gly-Phe-Ala-Glu-Gly-OH.

L10 ANSWER 37 OF 42 MEDLINE on STN  
DUPLICATE 22  
ACCESSION NUMBER: 81101143 MEDLINE  
DOCUMENT NUMBER: PubMed ID: 6109284  
TITLE: Primary structure of ovine hypothalamic somatostatin-28 and somatostatin-25.  
AUTHOR: Esch F; Bohlen P; Ling N; Benoit R; Brazeau P; Guillemin R  
CONTRACT NUMBER: AM-18811-05 (NIADDK)  
HD-09690-05 (NICHD)  
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1980 Nov) 77 (11) 6827-31.

Journal code: 7505876. ISSN: 0027-8424.  
PUB. COUNTRY: United States  
DOCUMENT TYPE: Journal; Article; (JOURNAL  
ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198103  
ENTRY DATE: Entered STN: 19900316  
Last Updated on STN: 19970203  
Entered Medline: 19810324  
AB The primary structure of the NH2-terminally extended somatostatins isolated from ovine hypothalamic extracts, one containing 28 residues and the other 25, has been determined. The structure of somatostatin-28 is  
Ser-Ala-Asn-Ser-Asn-Pro-Ala-Met-Ala-Pro- \*\*\*Arg\*\*\*  
- \*\*\*Glu\*\*\* -  
\*\*\*Arg\*\*\* -Lys-Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-  
Lys-Thr-Phe-Thr-Ser-Cys-OH;  
the shorter one, somatostatin-25, has the same sequence as somatostatin-28 except that the first three NH2-terminal residues are deleted. The two peptides as isolated were found to be oxidized at the methionine residue to the methionine sulfoxide. Their structures were established by subjecting the native peptides to direct sequence analysis in a Beckman 890C sequencer and identifying the released phenylthiohydantoin derivatives by high-performance liquid chromatography. Their structures were confirmed by trypsin digestion and isolation of all the tryptic peptides, followed by amino acid analysis of the tryptic fragments. Moreover, some of the tryptic peptides were matched with their respective synthetic replicates on high-performance liquid chromatography.

L10 ANSWER 38 OF 42 MEDLINE on STN  
 DUPLICATE 23  
 ACCESSION NUMBER: 81077276 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 6108560  
 TITLE: Nucleotide sequence of a cloned structural gene coding for a precursor of pancreatic somatostatin.  
 AUTHOR: Goodman R H; Jacobs J W; Chin W W; Lund P K; Dee P C; Habener J F  
 SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1980 Oct) 77 (10) 5869-73.  
 Journal code: 7505876. ISSN: 0027-8424.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 OTHER SOURCE: GENBANK-J00946  
 ENTRY MONTH: 198102  
 ENTRY DATE: Entered STN: 19900316  
 Last Updated on STN: 19950206  
 Entered Medline: 19810226  
 AB We have constructed and cloned, in bacteria, recombinant plasmids containing DNA complementary to mRNA coding for a pancreatic pre-prosomatostatin, a product of the cell-free translation of pancreatic islet mRNAs shown previously by immunoprecipitation to be a precursor of somatostatin. A clone containing a nearly full-length cDNA insert of 550 base pairs was identified and appeared to contain the entire coding sequence for the somatostatin precursor in addition to portions of the 5' and 3' untranslated regions. mRNA coding for the pre-prosomatostatin is 600-630 bases long as determined by agarose gel electrophoresis and hybridization with labeled cDNA. Analyses of the nucleotide sequence of the cDNA revealed a protein of 119 amino acid beginning with methionine followed by a typical leader sequence containing 18 hydrophobic amino acids. The tetradecapeptide somatostatin, identical in sequence to mammalian hypothalamic somatostatin, is located at the carboxy terminus followed immediately by a stop codon. An Arg-Lys sequence immediately preceding the sequence of somatostatin is typical of a prohormone cleavage site. A sequence Ala-Pro-Arg-Glu preceding the Arg-Lys cleavage site is identical to that found in porcine prosomatostatin. The evolutionary conservation of the identical amino acid sequence of the somatostatin tetradecapeptide from fish to mammals is remarkable. In addition, similar conservation, in fish and mammals, of the sequence Ala-Pro- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Lys preceding the coding region for somatostatin

suggests that this particular sequence may have biologic importance in cellular processing of the somatostatin precursor.

L10 ANSWER 39 OF 42 MEDLINE on STN  
 ACCESSION NUMBER: 81054799 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 6107906  
 TITLE: Isolation and structure of pro-somatostatin: a putative somatostatin precursor from pig hypothalamus.  
 AUTHOR: Schally A V; Huang W Y; Chang R C; Arimura A; Redding T W; Millar R P; Hunkapiller M W; Hood L E  
 CONTRACT NUMBER: AM-07467 (NIADDK) AM-09094 (NIADDK) GM-06965 (NIGMS)  
 SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1980 Aug) 77 (8) 4489-93.  
 Journal code: 7505876. ISSN: 0027-8424.  
 PUB. COUNTRY: United States  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English  
 FILE SEGMENT: Priority Journals  
 ENTRY MONTH: 198101  
 ENTRY DATE: Entered STN: 19900316  
 Last Updated on STN: 19970203  
 Entered Medline: 19810126  
 AB An octacosapeptide that we named pro-somatostatin has been isolated from acid extracts of porcine hypothalami and found to have the amino acid sequence Ser-Ala-Asn-Ser-Asn-Pro-Ala-Met-Ala-Pro-\*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Lys-Ala-Gly-Cys-Lys-Asn-Phe-Phe-Trp-Lys-Thr-Phe-Thr-Ser-Cys. This octacosapeptide possesses high somatotropin (growth hormone) and prolactin release-inhibiting activity in vitro. It also crossreacts strongly with antisera generated against the somatostatin tetradecapeptide. This octacosapeptide is most likely a precursor (pro-hormone) of somatostatin in the hypothalamus. The existence of still larger molecular size precursors of somatostatin was also observed.

L10 ANSWER 40 OF 42 BIOSIS COPYRIGHT (c) 2005 The Thomson Corporation. on STN  
 ACCESSION NUMBER: 1980:210594 BIOSIS  
 DOCUMENT NUMBER: PREV198070003090; BA70:3090  
 TITLE: PURIFICATION AND PRIMARY STRUCTURE OF THE NEURO PEPTIDE EGG LAYING HORMONE OF APLYSIA-CALIFORNICA.  
 AUTHOR(S): CHIU A Y [Reprint author]; HUNKAPILLER M W; HELLER E; STUART D K; HOOD L E; STRUMWASSER F  
 CORPORATE SOURCE: DIV BIOL, CALIF INST TECHNOL, PASADENA, CALIF 91125, USA  
 SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1979) Vol. 76, No. 12, pp.

6656-6660.

CODEN: PNASA6. ISSN: 0027-8424.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: ENGLISH

AB Egg-laying hormone (ELH), a neuropeptide synthesized by the bag cell

neurons, induces egg laying and its correlated behavior in *A. californica*.

ELH was purified to homogeneity and its primary structure was determined.

This molecule has 36 amino acid residues with a MW of 4385 and a

calculated isoelectric point [pI] of 9.7. Direct

microsequence analysis

revealed a single amino acid sequence that is in agreement with the amino

acid composition determined after acid hydrolysis of ELH:

H-Ile-Ser-Ile-Asn-Gln-Asp-Leu-Lys-Ala-Ile-Thr-Asp-

Met-Leu-Leu-Thr-Glu-Gln-

Ile- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* - \*\*\*Arg\*\*\* -Gln-Arg-Tyr-Leu-Ala-Asp-Leu-

Arg-Gln-Arg-Leu-Leu-Glu-Lys-OH. Enzyme data indicate that the

COOH-terminal lysine may be modified but its exact nature remains to be

determined. There is no similarity between the amino acid sequence of ELH

and that of presently known vertebrate neuropeptides.

The 2-step

purification procedure, starting with a homogenate of bag cell clusters,

consisted of cation exchange chromatography on SP C25 (Sephadex) followed

by gel filtration on Bio-Gel P-6, resulting in a 100-fold enrichment of

ELH from bag cell homogenates and a 36% recovery of purified radiolabeled

marker ELH. Analysis of purified ELH radiolabeled with [35S]methionine or

[3H]leucine on isoelectric focusing gels and on 8 M urea/sodium dodecyl

sulfate gels showed only a single peak containing 90% of the radiolabel.

Radiolabeled ELH migrated with a pI of 9.0-9.2 and an apparent MW of

3500-5700. ELH retained egg-laying bioactivity when eluted from this

segment of the gel. Of pure ELH, (2.5 nmol) consistently induces egg

laying at 20.degree. C.

L10 ANSWER 41 OF 42 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1971:471468 CAPLUS

DOCUMENT NUMBER: 75:71468

TITLE: Amino acid sequence of viscotoxin B from the European

mistletoe (*Viscum album*, Loranthaceae)

AUTHOR(S): Samuelsson, Gunnar; Pettersson, Barbro M.

CORPORATE SOURCE: Farmakognostiska Inst., Farm. Fak., Stockholm, Swed.

SOURCE: European Journal of Biochemistry (1971), 21(1), 86-9

CODEN: EJBCA1; ISSN: 0014-2956

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Viscotoxin B from *V. album* (mistletoe) has been oxidized with performic

acid and digested with trypsin and chymotrypsin. The resulting peptides

have been sepd. by ion exchange chromatog. and subjected to amino acid

sequence detn. by Edman degradation. Free lysine, 6 tryptic and 3

chymotryptic fragments are primary digestion products and permit deduction

of the following amino acid sequence for the 46 amino acids of viscotoxin

B:Lys-Ser-Cys-Cys-Pro-Asn-Thr-Thr-Gly-Arg-Asn-

IleTyr-Asn-Thr-Cys-Arg-Leu-

Gly-Gly-Gly-Ser- \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* -

\*\*\*Arg\*\*\*

-Cys-Ala-Ser-Leu-Ser-Gly-Cys-Lys-Ile-Ile-Ser-Ala-Ser-Thr-Cys-Pro-Ser-Tyr-

Pro-Asp-Lys, where Cys is half cystine. This sequence is very similar to

the amino acid sequence of viscotoxin A3 from the same plant.

L10 ANSWER 42 OF 42 CAPLUS COPYRIGHT 2005

ACS on STN

ACCESSION NUMBER: 1966:69180 CAPLUS

DOCUMENT NUMBER: 64:69180

ORIGINAL REFERENCE NO.: 64:12995f-h

TITLE: New arginine-containing peptides isolated from

*Chlorella* cells

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AB Studies were carried out on analyses and characterization of 7 different

forms of arginine-contg. peptides isolated from cells of *C. ellipsoidea*,

and an investigation was made of the fates of these peptides in the normal

life cycle of the alga. The peptides were obtained by extg. the

harvested, asynchronously grown algal cells with HClO<sub>4</sub>, subjecting the

exts. to treatment with 1-fluoro-2,4-dinitrobenzene, chromatographically

sepg. the dinitrophenylated (DNP)-arginine peptides by passing the ext.

mixt. through a weak cation-exchange resin (Amberlite CG 50, 400-600 mesh)

column, and purifying and characterizing the DNP-arginine peptides by

thin-layer chromatography and electrophoresis. Analyses showed that the

amino acid compns. of fractions I-1, I-2, II, III, IV, V, and VI were

Arg-(Glu, Asp), \*\*\*Arg\*\*\* - \*\*\*Glu\*\*\* ,

\*\*\*Arg\*\*\* - \*\*\*Arg\*\*\* -

\*\*\*Glu\*\*\* , \*\*\*Arg\*\*\* -Arg, Arg-(Arg<sub>2</sub>, Glu)-Glu,

Arg-Arg-Arg, and

Arg-(Arg<sub>3</sub>, Glu), resp. I-1 and I-2 appeared to be identical with X-B1 and

X-B2, resp., reported previously (loc. cit.). These peptides may probably



play roles more important than merely that of reservoirs of amino acids or amino groups. Fractions III, V, and VI were strongly basic. In the synchronously mass-cultured algal cells, the changes in the arginine peptides during the 6 stages in life cycle of the cell were followed. The findings indicated that the arginine derived from peptides was expended not only as such, but also as a source of NH<sub>2</sub> groups for the synthesis of other amino acids to be incorporated into newly synthesized protein.